

117
No. 9
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DECEMBER, 1946

THE *Refrigeration* INDUSTRY

AIR CONDITIONING
EQUIPMENT

MERCHANDISING * INSTALLATION * MAINTENANCE



THE ALL-INDUSTRY SHOW IN REVIEW

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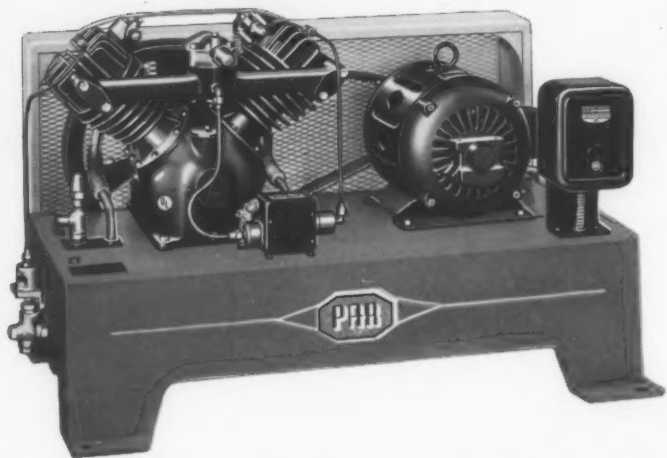
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THE REFRIGERATION INDUSTRY

VOLUME 3, No. 12

DECEMBER, 1946

THIS MAGAZINE has no official affiliation with ANY group, society or association.

THE COVER . . . This scene or one just like it except for the surroundings, could have been taken in any one of 200-odd exhibits at the All-Industry Show. Refrigeration men from all over North America came to the Show to see and to learn—just as they are shown doing here. In this issue, we've tried to give you a "visitor's eye view" of the products, people, and exhibits that made the Show the outstanding success it was. (Photo for The Refrigeration Industry by Bob Burke.)

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CONTENTS

USEFUL LITERATURE	66
THIS IS THE WAY IT WAS	27
NEW PRODUCTS ON PARADE	28
BUYER MEETS SELLER	30
SELLER MEETS BUYER	31
ASSOCIATION DOINGS; NARC COMES OF AGE	37
NEWS OF THE OTHER INDUSTRY ASSOCIATIONS	38
UP AND DOWN THE AISLES—IN PICTURES	40
REFRIGERATION INDUSTRY NEWS	43
THE PRACTICAL REFRIGERATION ENGINEERING MANUAL	69
HERE'S HOW	77
THE MARKET PLACE	80
INDEX OF ADVERTISERS	80

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IRVING B. HEXTER, President

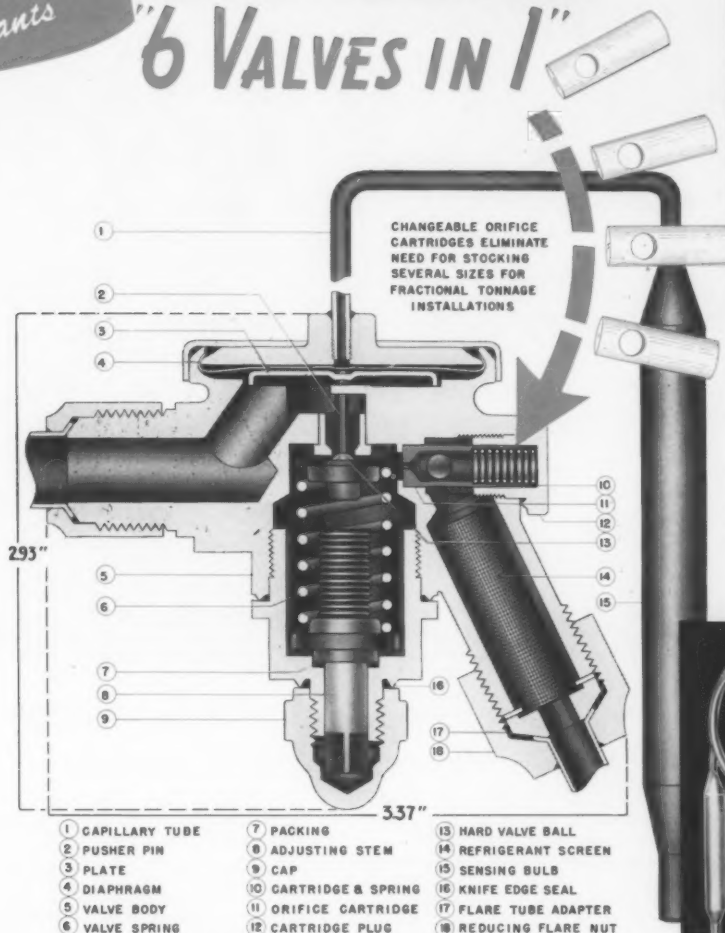
LESTER P. AURBACH, Vice President

The
UNSURPASSED
CONTROL for
Refrigerants

V-200

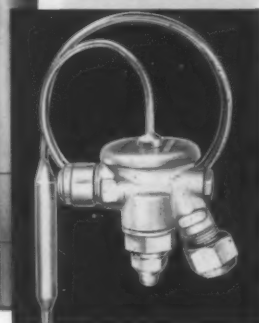
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"6 VALVES IN 1"



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✓ **THOROUGHLY FIELD-TESTED** for Freon, Methyl Chloride and Sulphur Dioxide.
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 ✓ **UNMATCHED** sensitivity.
 For complete specifications on the V-200 and other refrigerant controls in the broad GENERAL CONTROLS line, write for Catalog 52C. . . . Send request to the nearest GENERAL CONTROLS Factory Branch or Refrigeration Wholesaler.



THERMAL EXPANSION VALVE V-200-1 FOR FREON-METHYL CHLORIDE-SULPHUR DIOXIDE

CARTRIDGE NUMBER	CAPACITIES — V-200-1					
	FREON		METHYL CL.		SULPHUR DI.	
	CAT. NO. 33R121	CAT. NO. 33R122	CAT. NO. 33R123	CAT. NO. 33R124	CAT. NO. 33R125	CAT. NO. 33R126
	V-200-1F	V-200-1M	V-200-1S	V-200-1F	V-200-1M	V-200-1S
BTU/HR.	1200	2400	4800	1200	2400	4800
TONS	.10	.20	.40	.10	.20	.40
6500 .018	2400	4800	9600	2400	4800	9600
6500 .024	3600	7200	14400	3600	7200	14400
6500 .035	6000	12000	24000	6000	12000	24000
6500 .052	9000	18000	36000	9000	18000	36000
V-200 VALVE WITH NO CARTRIDGE	12000	24000	48000	12000	24000	48000

Valves are semi-liquid charged and may be placed in ambient temperatures either higher or lower than bulb temperatures in any position inside or outside of the freezer cabinet without danger of loss of control. The adequate diaphragm area in combination with the well balanced low rate adjusting spring, full opening tight closing ball, and practically frictionless single pusher pin form a valve unsurpassed in sensitivity and dependability.

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17-1



Purity is the Password

Laboratory Control Insures Purity of "Freon"—Helps Cut Maintenance Costs in Air Conditioning and Refrigerating Systems

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By titrating samples withdrawn from different parts of the "Freon" plant, the purity—both of raw materials and of "Freon" itself—is controlled and maintained. Each analysis must conform to rigid specifications, and purity is the password. This is but a small part of the huge control

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"Freon" refrigerants are pure. They are free from acids, insoluble gases and are almost totally dry—less than 25 parts of moisture in a million parts of "Freon"! These important properties of "Freon" safeguard modern, compact equipment . . . protect intricate, precision-made parts against corrosion, oxidation or other damage

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When you plan air conditioning or refrigerating installations for commercial or industrial purposes or the frozen foods field, be sure to specify equipment designed to utilize "Freon" safe refrigerants. For further information about "Freon" safe refrigerants, write our Sales and Engineering Departments, Kinetic Chemicals, Inc., Tenth and Market Sts., Wilmington 98, Delaware.

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1. Freedom from moisture . . . less than 25 parts per million.
2. Narrow boiling point range—confined within limits of $1/2^{\circ}\text{C}$.
3. Less than 2% of insoluble gases in vapor phase.
4. Freedom from acids. There are none in "Freon".
5. Freedom from impurities . . . less than $1/20$ of 1%.



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312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000, 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1009, 1010, 1011, 1012, 1013, 1014, 1015, 1016, 1017, 1018, 1019, 1020, 1021, 1022, 1023, 1024, 1025, 1026, 1027, 1028, 1029, 1030, 1031, 1032, 1033, 1034, 1035, 1036, 1037, 1038, 1039, 1040, 1041, 1042, 1043, 1044, 1045, 1046, 1047, 1048, 1049, 1050, 1051, 1052, 1053, 1054, 1055, 1056, 1057, 1058, 1059, 1060, 1061, 1062, 1063, 1064, 1065, 1066, 1067, 1068, 1069, 1070, 1071, 1072, 1073, 1074, 1075, 1076, 1077, 1078, 1079, 1080, 1081, 1082, 1083, 1084, 1085, 1086, 1087, 1088, 1089, 1090, 1091, 1092, 1093, 1094, 1095, 1096, 1097, 1098, 1099, 1100, 1101, 1102, 1103, 1104, 1105, 1106, 1107, 1108, 1109, 1110, 1111, 1112, 1113, 1114, 1115, 1116, 1117, 1118, 1119, 1120, 1121, 1122, 1123, 1124, 1125, 1126, 1127, 1128, 1129, 1130, 1131, 1132, 1133, 1134, 1135, 1136, 1137, 1138, 1139, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, 1150, 1151, 1152, 1153, 1154, 1155, 1156, 1157, 1158, 1159, 1160, 1161, 1162, 1163, 1164, 1165, 1166, 1167, 1168, 1169, 1170, 1171, 1172, 1173, 1174, 1175, 1176, 1177, 1178, 1179, 1180, 1181, 1182, 1183, 1184, 1185, 1186, 1187, 1188, 1189, 1190, 1191, 1192, 1193, 1194, 1195, 1196, 1197, 1198, 1199, 1200, 1201, 1202, 1203, 1204, 1205, 1206, 1207, 1208, 1209, 1210, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1224, 1225, 1226, 1227, 1228, 1229, 1230, 1231, 1232, 1233, 1234, 1235, 1236, 1237, 1238, 1239, 1240, 1241, 1242, 1243, 1244, 1245, 1246, 1247, 1248, 1249, 1250, 1251, 1252, 1253, 1254, 1255, 1256, 1257, 1258, 1259, 1260, 1261, 1262, 1263, 1264, 1265, 1266, 1267, 1268, 1269, 1270, 1271, 1272, 1273, 1274, 1275, 1276, 1277, 1278, 1279, 1280, 1281, 1282, 1283, 1284, 1285, 1286, 1287, 1288, 1289, 1290, 1291, 1292, 1293, 1294, 1295, 1296, 1297, 1298, 1299, 1300, 1301, 1302, 1303, 1304, 1305, 1306, 1307, 1308, 1309, 1310, 1311, 1312, 1313, 1314, 1315, 1316, 1317, 1318, 1319, 1320, 1321, 1322, 1323, 1324, 1325, 1326, 1327, 1328, 1329, 1330, 1331, 1332, 1333, 1334, 1335, 1336, 1337, 1338, 1339, 1340, 1341, 1342, 1343, 1344, 1345, 1346, 1347, 1348, 1349, 1350, 1351, 1352, 1353, 1354, 1355, 1356, 1357, 1358, 1359, 1360, 1361, 1362, 1363, 1364, 1365, 1366, 1367, 1368, 1369, 1370, 1371, 1372, 1373, 1374, 1375, 1376, 1377, 1378, 1379, 1380, 1381, 1382, 1383, 1384, 1385, 1386, 1387, 1388, 1389, 1390, 1391, 1392, 1393, 1394, 1395, 1396, 1397, 1398, 1399, 1400, 1401, 1402, 1403, 1404, 1405, 1406, 1407, 1408, 1409, 1410, 1411, 1412, 1413, 1414, 1415, 1416, 1417, 1418, 1419, 1420, 1421, 1422, 1423, 1424, 1425, 1426, 1427, 1428, 1429, 1430, 1431, 1432, 1433, 1434, 1435, 1436, 1437, 1438, 1439, 1440, 1441, 1442, 1443, 1444, 1445, 1446, 1447, 1448, 1449, 1450, 1451, 1452, 1453, 1454, 1455, 1456, 1457, 1458, 1459, 1460, 1461, 1462, 1463, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1474, 1475, 1476, 1477, 1478, 1479, 1480, 1481, 1482, 1483, 1484, 1485, 1486, 1487, 1488, 1489, 1490, 1491, 1492, 1493, 1494, 1495, 1496, 1497, 1498, 1499, 1500, 1501, 1502, 1503, 1504, 1505, 1506, 1507, 1508, 1509, 1510, 1511, 1512, 1513, 1514, 1515, 1516, 1517, 1518, 1519, 1520, 1521, 1522, 1523, 1524, 1525, 1526, 1527, 1528, 1529, 1530, 1531, 1532, 1533, 1534, 1535, 1536, 1537, 1538, 1539, 1540, 1541, 1542, 1543, 1544, 1545, 1546, 1547, 1548, 1549, 1550, 1551, 1552, 1553, 1554, 1555, 1556, 1557, 1558, 1559, 1560, 1561, 1562, 1563, 1564, 1565, 1566, 1567, 1568, 1569, 1570, 1571, 1572, 1573, 1574, 1575, 1576, 1577, 1578, 1579, 1580, 1581, 1582, 1583, 1584, 1585, 1586, 1587, 1588, 1589, 1590, 1591, 1592, 1593, 1594, 1595, 1596, 1597, 1598, 1599, 1600, 1601, 1602, 1603, 1604, 1605, 1606, 1607, 1608, 1609, 1610, 1611, 1612, 1613, 1614, 1615, 1616, 1617, 1618, 1619, 1620, 1621, 1622, 1623, 1624, 1625, 1626, 1627, 1628, 1629, 1630, 1631, 1632, 1633, 1634, 1635, 1636, 1637, 1638, 1639, 1640, 1641, 1642, 1643, 1644, 1645, 1646, 1647, 1648, 1649, 1650, 1651, 1652, 1653, 1654, 1655, 1656, 1657, 1658, 1659, 1660, 1661, 1662, 1663, 1664, 1665, 1666, 1667, 1668, 1669, 1670, 1671, 1672, 1673, 1674, 1675, 1676, 1677, 1678, 1679, 1680, 1681, 1682, 1683, 1684, 1685, 1686, 1687, 1688, 1689, 1690, 1691, 1692, 1693, 1694, 1695, 1696, 1697, 1698, 1699, 1700, 1701, 1702, 1703, 1704, 1705, 1706, 1707, 1708, 1709, 1710, 1711, 1712, 1713, 1714, 1715, 1716, 1717, 1718, 1719, 1720, 1721, 1722, 1723, 1724, 1725, 1726, 1727, 1728, 1729, 1730, 1731, 1732, 1733, 1734, 1735, 1736, 1737, 1738, 1739, 1740, 1741, 1742, 1743, 1744, 1745, 1746, 1747, 1748, 1749, 1750, 1751, 1752, 1753, 1754, 1755, 1756, 1757, 1758, 1759, 1760, 1761, 1762, 1763, 1764, 1765, 1766, 1767, 1768, 1769, 1770, 1771, 1772, 1773, 1774, 1775, 1776, 1777, 1778, 1779, 1780, 1781, 1782, 1783, 1784, 1785, 1786, 1787, 1788, 1789, 1790, 1791, 1792, 1793, 1794, 1795, 1796, 1797, 1798, 1799, 1800, 1801, 1802, 1803, 1804, 1805, 1806, 1807, 1808, 1809, 1810, 1811, 1812, 1813, 1814, 1815, 1816, 1817, 1818, 1819, 1820, 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831, 1832, 1833, 1834, 1835, 1836, 1837, 1838, 1839, 1840, 1841, 1842, 1843, 1844, 1845, 1846, 1847, 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 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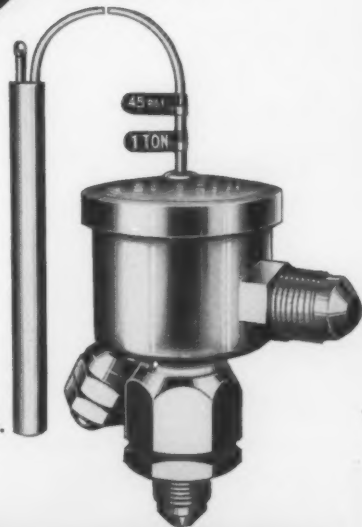
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The THERMO-LIMIT also limits pressure to prevent motor overload—and you can easily change pressure, capacity and super-heat in the field.

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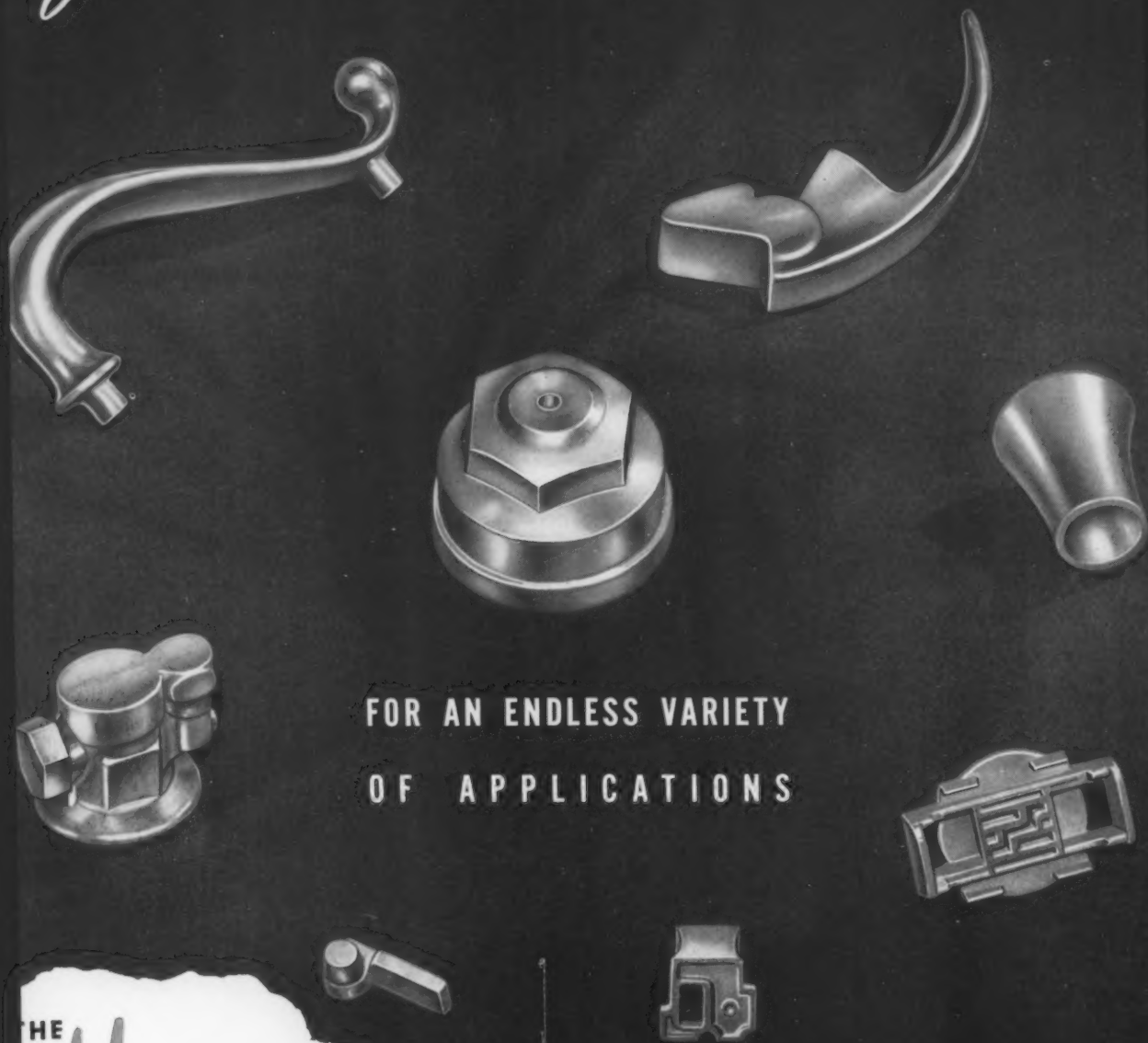
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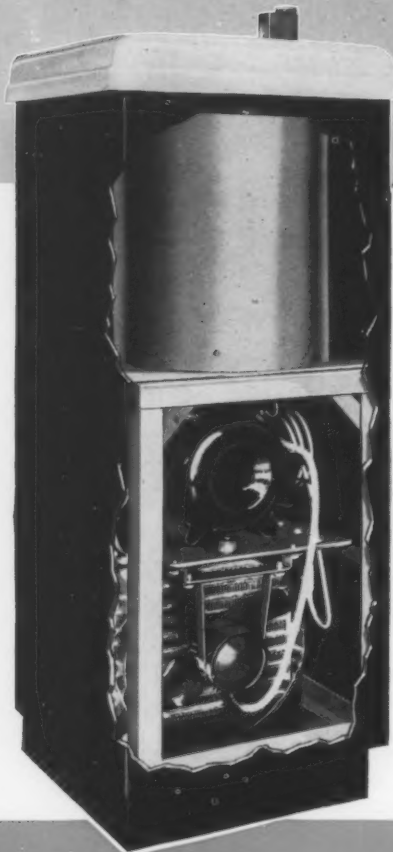
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With the complete line of Westinghouse Water Coolers, you can meet the requirements of all your customers. For Westinghouse builds bottle coolers, standard coolers and explosion-proof coolers—models for all kinds and types of applications... from the small office to the busy store or factory. They are designed with an eye to your merchandising problems... making easier your sales, installation and service.

Westinghouse Water Coolers are practical, efficient, low-cost equipment which will satisfy the buyer and lead to more sales.

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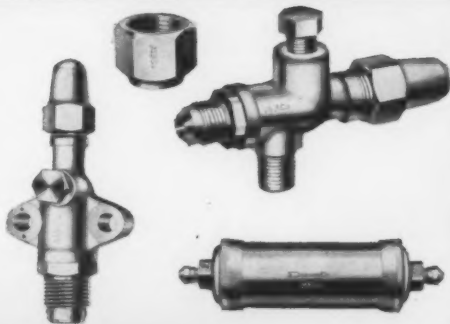
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The Mueller Brass Co. line of refrigeration products is exceptionally complete, and all products are designed and manufactured specifically for mechanical refrigeration work. THEY ARE USED BY ALL OF THE LARGEST MANUFACTURERS THROUGHOUT THE UNITED STATES.

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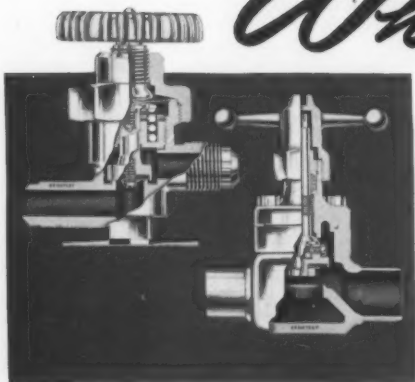
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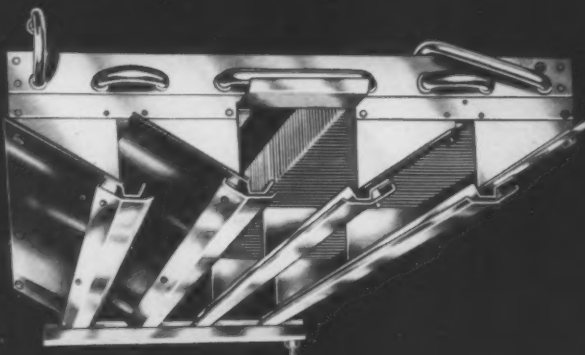
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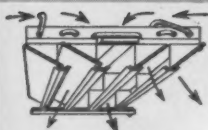
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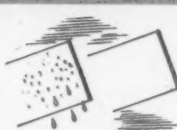
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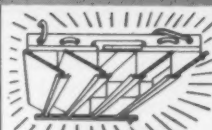
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Extremely light — BUSH engineering eliminates bulk and extra weight. Aluminum fins mean high efficiency — minimum weight.



Sweating eliminated by specially designed baffles of gleaming plastic which prevent condensation of moisture on the underside.



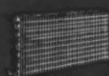
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Wagner type RA repulsion-start induction motors give years of reliable, trouble-free service, because dependability is built into every motor.

Careful engineering has reduced wear, vibration, and noise of operation to a minimum. Many important construction features such as sturdy welded steel frames and well-insulated windings securely held in place, add to the ruggedness of the motors without sacrificing compactness or efficiency.

Wagner type RA motors embody all the important improvements in single-phase motor design. This means that the user of RA motors gets the best

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Type RA motors are available in $\frac{1}{8}$ to 15 hp; sleeve or ball-bearing; horizontal or vertical; open, drip-proof, and totally enclosed; rigid, resilient, or flange mountings.

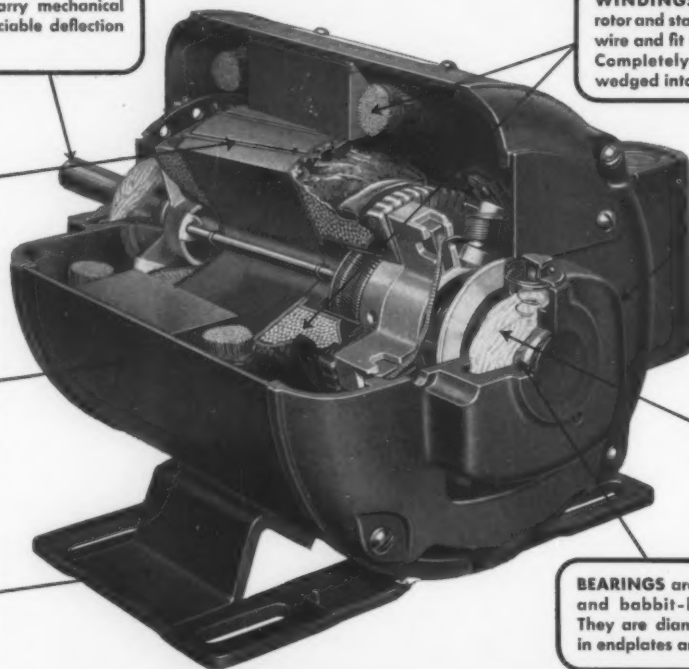
A few of the many Wagner construction features are shown below around a cut-away view of the type RA. For complete description of Type RA motors, write for Bulletin MU-185, and address your inquiry to Wagner Electric Corporation, 6442 Plymouth Avenue, St. Louis 14, Mo.

SHAFT is designed to carry mechanical overloads without appreciable deflection or vibration.

SLOTS in rotor are skewed to reduce magnetic noise and variation in starting-torque.

FRAME—Motor frame is formed from heavy sheet steel. Electrically welded to form a strong, rigid frame which withstands a considerable amount of abuse.

BASE is punched and formed from steel plate—unbreakable. Mounting slots permit shifting of motor for belt tightening.



WINDINGS—The windings of both rotor and stator are of heavily-insulated wire and fit the slots without crowding. Completely insulated and securely wedged into place.

ENDPLATES are concentrically machined and closely fit machined frames, assuring accurate centering of rotor and uniform airgap.

LUBRICATION—Long-strand wool yarn is used in all fractional-horsepower motors. Oil-wells are roomy and the yarn supplies plenty of oil, assuring adequate lubrication at all times.

BEARINGS are steel-backed for strength and babbitt-lined to minimize wear. They are diamond bored after assembly in endplates and have a mirror-like finish.

M46-12

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It may be quite incidental that this lock incorporates a new, exclusive principle . . . that its action provides the strongest, most positive locking grip ever devised . . . that it operates at the touch of a finger . . . that it's available in a variety of sizes.

You are most interested in the long, trouble-free service it gives . . . in your customer's approval . . . in the credit it reflects upon your product and your company. And you always earn these extra dividends when you specify Grand Rapids Brass Company hardware.

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Every working part is designed to cushion shock. The rugged trigger-latch (A, B) is shaped for a direct blow on the strike, spring-cushioned through an off-center plate (C). The bolt (D) is short and heavy taking all stresses in one direction against a powerful coil spring. Engineered for many years of extra service on your commercial applications!

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SUNISO REFRIGERATION OILS...

Are Custom-Built for Modern Refrigeration and Air-Conditioning Equipment

The service-man who refills with "Job-Proved" Suniso oils knows he is giving his customers not only the highest quality lubricants, but also protection for the life of the machine against sludge, acid, wax, and other trouble-makers.

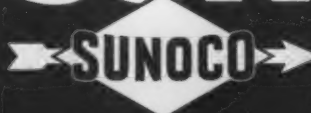
Suniso oils were developed especially for use with Freon and other modern refrigerants in new types of sealed units. They have extremely low pour points and great resistance to change when in combination with new kinds of refrigerant.

"Job-Proved" in thousands of machines, these oils are used and preferred by many leading manufacturers of refrigerating and air-conditioning equipment.

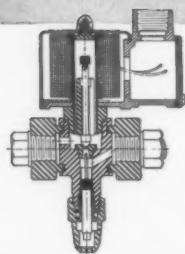
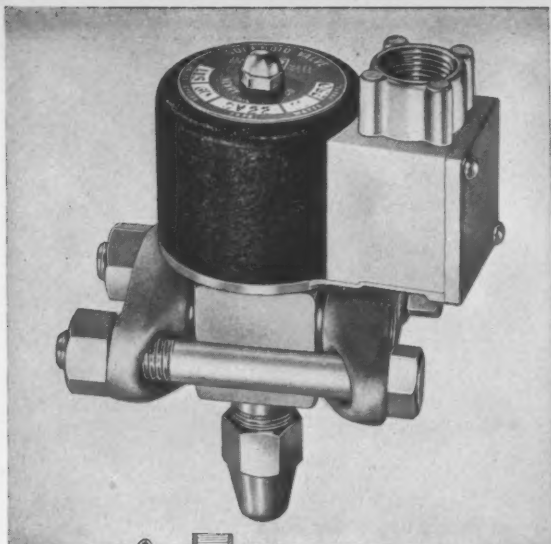
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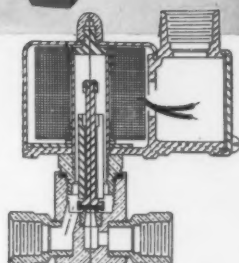
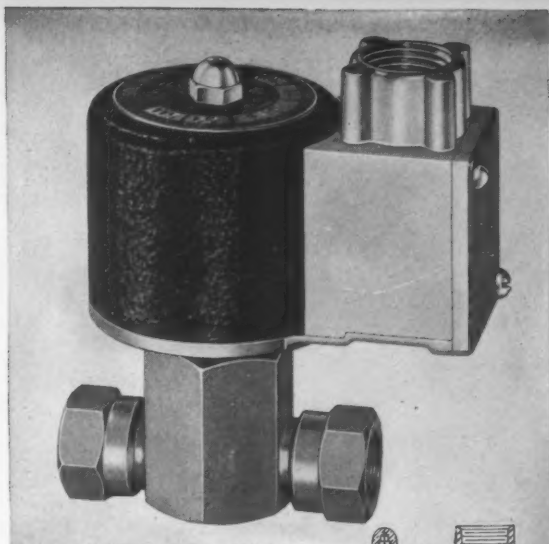


MODEL SV-22

- For Ammonia and other fluids non-corrosive to steel
- 10-ton capacity
- Hardened steel renewable seat

GIVES YOU THESE 10 FEATURES

1. Rugged steel body.
2. Come-apart construction for easy servicing.
3. Stainless steel interior parts.
4. 10-ton ammonia capacity, with two-pound pressure drop.
5. Aluminum die-cast junction box.
6. Hardened steel renewable seat.
7. Easily rotated coil and junction box.
8. $\frac{3}{8}$ " or $\frac{1}{2}$ " FPT flanged connection.
9. Standard voltages. 115/60 and 230/60, AC.
10. Triple-impregnated coils, moisture-repellant and oil-resistant. Low current consumption. Flamenol lead wires.



MODEL SV-21

- For Freon, Methyl Chloride, Water, Air, Oil, Gas, etc.
- 2-ton capacity
- Soft seat for positive shut-off

GIVES YOU THESE 10 FEATURES

1. Non-corrosive brass body.
2. Come-apart construction for easy servicing.
3. Stainless steel interior parts.
4. 2-ton Freon capacity, with two-pound pressure drop.
5. Aluminum die-cast junction box.
6. Renewable Neoprene "soft-seat" for more positive shut-off.
7. Easily rotated coil and junction box.
8. $\frac{3}{8}$ " FPT connection std., available on special order with flare and solder connections.
9. Standard voltages 115/60 and 230/60, AC.
10. Triple-impregnated coils, moisture-repellant and oil-resistant. Low current consumption. Flamenol lead wires.

2 NEW Solenoid Valves with TYPICAL HENRY ADVANTAGES

- Compact Size
- Rugged Construction
- Built-in Outlet Boxes
- Easy to Install
- Efficient, Quiet Operation
- Easy to Service

In the new SV-21 for Freon and SV-22 for Ammonia, Henry Valve deals another "pair of aces." Henry advanced design features make both these valves easy to install and service, pay you dividends in quiet, efficient, positive protection, and low current consumption. Check the "specs" on these two new, dependable, long-lived Henry Solenoid Valves right now . . . and ask your Henry jobber for full details.

Watch for future announcements
of additional new Henry Solenoid Valves
with advanced design features

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MADE TO EXTREMELY CLOSE TOLERANCES.
SOLDERED TO CHASE EXTRA SOFT TUBE
THEY FORM LEAK-PROOF JOINTS!



NON-POROUS—REFRIGERANT GASES CAN-
NOT PENETRATE OR PERMEATE THEM.



THEY EXPAND AND CONTRACT TO EXACTLY
THE SAME DEGREE AS THE TUBE. THE
JOINT STAYS TIGHT.

CHASE Wrought Copper Fittings are made to very close tolerances. A proper tube-to-fitting fit is assured if you use the combination of Chase Tube with Chase Fittings.

Made of *wrought copper*, Chase Fittings are non-porous, sound. Refrigerant gases cannot seep through.

In addition . . . Chase Wrought Copper Fittings expand and contract

to exactly the same degree as the tube! They are not affected by ordinary vibration or pressure.

Chase Extra Soft Copper Refrigerator Tube along with Chase Wrought Copper Fittings offers the best combination for the service man and the distributor. Keep asking for Chase. Even though we can't satisfy the demand today we hope to be able to do so in the near future.



CHASE Extra Soft Copper Tube in an Extra-Handy package

Chase Copper Refrigerator Tube is *extra soft* for easy bending. Positive end seal fits anywhere the tube will fit—need not be removed till you're ready to make connections.

Space-saving package is plainly labeled with full specifications—can be reused to protect and identify cut coils. Tube sizes: $\frac{1}{8}$ " to $\frac{3}{4}$ " diameters, 50' and 100' lengths.



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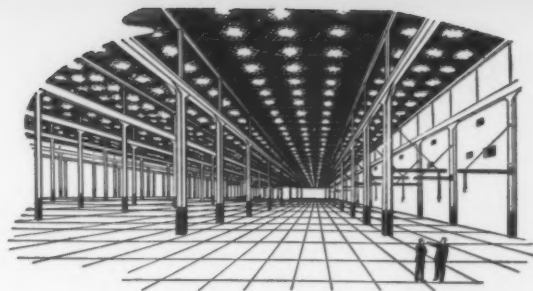
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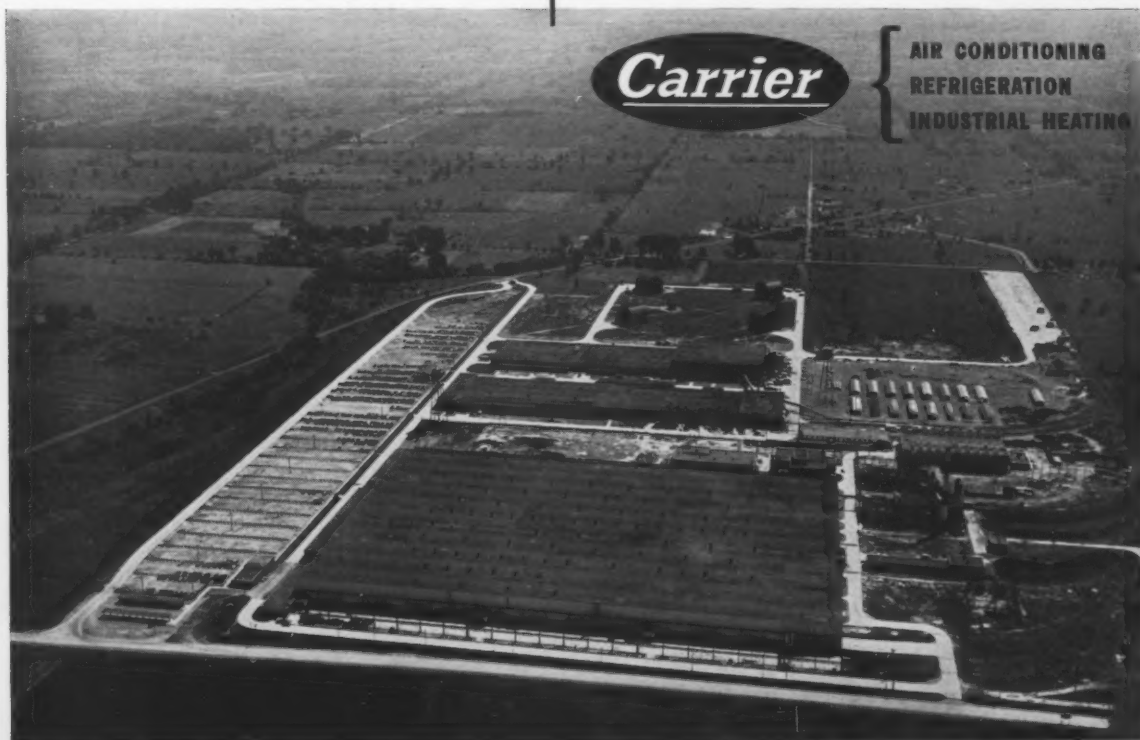
**660,000 sq. ft. more
to build Carrier
Air Conditioning and
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Today, more than ever before, Carrier leads in air conditioning and refrigeration. For the acquisition of a huge, new 660,000-sq.-ft. plant in East Syracuse gives Carrier Corporation facilities that are among the largest, most modern in the world for the manufacture of air conditioning and refrigeration equipment!

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Carrier

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REFRIGERATION
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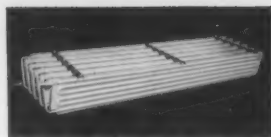


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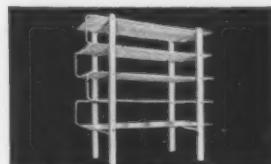
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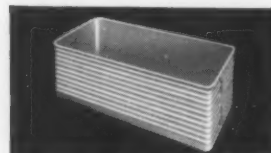
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STREET, LANSING 4, MICHIGAN
THE REFRIGERATION INDUSTRY



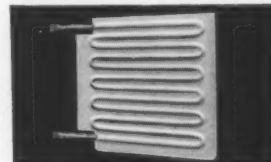
For locker plants where perishables are quick-frozen, these Kold Hold plate bank units are suspended from the ceiling, replacing cumbersome pipe coils, providing constant, economical temperature. The unit can be series connected or manifolded with almost any number of plates.



Kold-Hold serpentine plate stands are designed for sharp freezing and holding. Plate stands are connected in series, the number of plates per valve depending on plate size.



This standard Kold-Hold liner (use in cabinet illustrated) embodies a technique of fabricating serpentine plate evaporators into one unit, eliminating refrigerant joints. Refrigerant flow is uninterrupted. Easily installed and maintained, ideal for sharp freezing, cooling and holding of perishables.



Single Kold-Hold plate type evaporators like the above can be obtained in practically every size . . . can be adapted to an amazing number of uses. This basic Kold-Hold unit has channels of stamped steel, eliminating tubes and piping except at inlet and outlet points.



On the road, Kold-Hold "Hold-Over" truck plates can be installed in numerous ways to fit the needs of your truck. They create greater pay load space . . . cold is built up at night and holds over the desired temperature all through the day. Plates can be charged at the plant or on the road, by means of a truck-carried generator unit.

The Ansul Research Staff REPORTS ON

WAX

CAUSES FROZEN VALVES *too!*

WAX IN OIL-REFRIGERANT MIXTURES

These photographs show the results of practical machine tests in which 10% oil was circulated with the refrigerant. Valve temperature was approximately -25 degrees Fahrenheit. Every effort was made to exclude moisture. Within a few hours wax separated throughout the body of the expansion valve and the forepart of the expansion coil adhering firmly to the metal.



Ansul Wholesalers are ready and equipped to render an intelligent, co-operative service to refrigeration engineers and maintenance men on problems which arise from time-to-time in the operation of refrigerating systems.

FOR EXAMPLE:

Samples of ice machine oils, submitted by users of Ansul Refrigerants to Ansul Wholesalers, are tested by Ansul laboratories without charge by the Ansul Standard Wax-Oil Separation Method. This approved method, developed and standardized especially for use in connection with oils used in refrigerating systems, provides an accurate determination of the amount of wax which separates from an oil at low temperatures.



*REG. U.S. PAT. OFF.

Ansul refrigerants are available at leading wholesalers everywhere

A wax deposit, about 1/8 inch thick, formed on the plate carrying the ball-valve enclosure and almost completely clogged the outlet of the expansion valve.

REMEDIES

To eliminate wax trouble in expansion valves and coils:



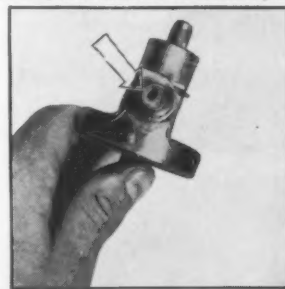
1. Use an oil which separates little or no wax from its mixture with the refrigerant at the operating temperature of the valve.
2. Install an oil trap to cut down the amount of oil (and consequent wax) circulating with the refrigerant.

SEND FOR THIS BULLETIN

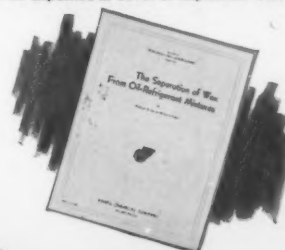
An informative reprint, "THE SEPARATION OF WAX FROM OIL-REFRIGERANT MIXTURES," will be sent on request. No obligation. Just address . . .



Wax deposited on the ball-valve closure plate.



Wax deposited in outlet of Expansion Valve.



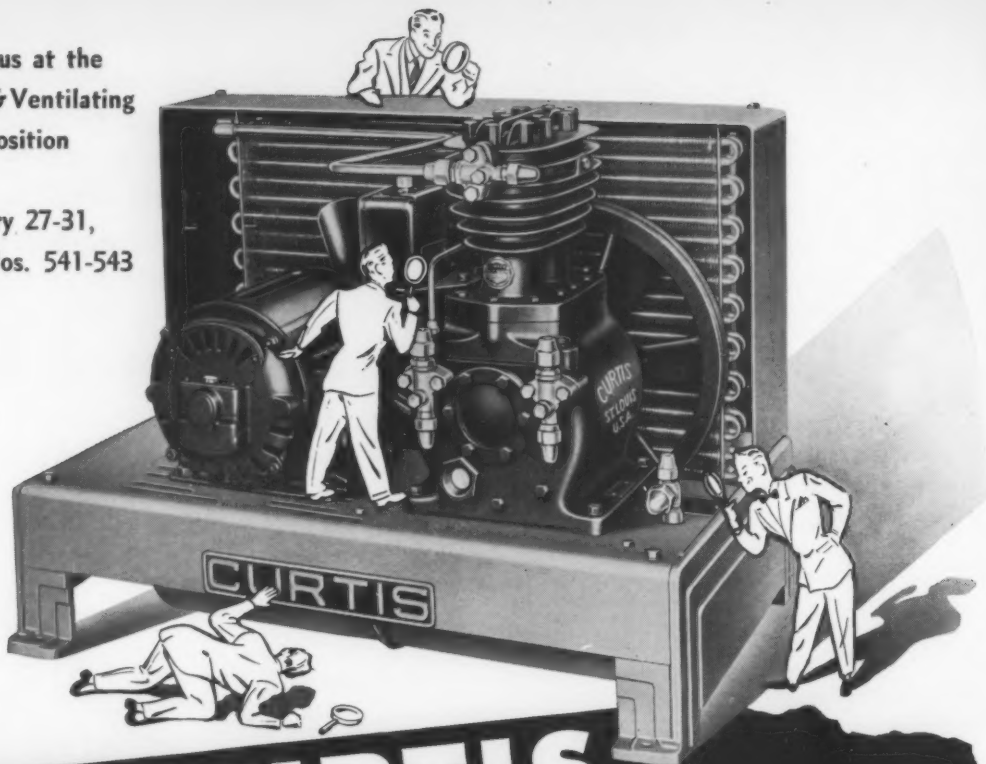
ANSUL CHEMICAL COMPANY

REFRIGERATION DIVISION, MARINETTE, WISCONSIN

DISTRIBUTORS FOR KINETIC'S "FREON-11," "FREON-12," "FREON-21," "FREON-22" AND "FREON-113"

Meet us at the
Heating & Ventilating
Exposition

January 27-31,
Booths Nos. 541-543



Why **CURTIS** REFRIGERATION UNITS Sell Easier—Require Less Servicing

The many features that make Curtis Condensing Units easier to sell, assure more dependable performance with a minimum of servicing after installation, include:



Curtis Packaged Air
Conditioners — 3, 5,
7½, 10, 15 tons.

1. Timken Bearings that assure more B.T.U.'s per watt input.
2. A wide range of air and water-cooled units.
3. Extra large condensers, requiring less water.
4. Self-oiling—positive pressure-lubrication.
5. Finest materials—precision construction throughout.
6. Slow speed—long life—low maintenance.

Write for full information on all the advantages of CURTIS equipment for practically any refrigeration or air-conditioning requirement.

92 Years of Successful Manufacturing

CURTIS REFRIGERATING MACHINE DIVISION

of Curtis Manufacturing Company

1915 Kienlen Avenue

St. Louis 20, Missouri

B-514

"DETROIT"

COMPLETE LINE OF EXPANSION VALVES

PREFERRED BY REFRIGERATION MEN EVERYWHERE

Preference of refrigeration men for "Detroit" Valves is based on a long record of excellent performance. The industry knows "Detroit" Valves will do a better job—keep right on doing it over years of service.

Illustrated and described here are representative members of the complete line. There is a "Detroit" Valve for every refrigeration need from extremely low temperatures to air conditioning temperatures.

NO. 673 THERMOSTATIC EXPANSION VALVE

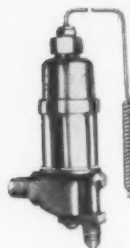
For many years the standard of the industry. Gas charged—keeps evaporators completely refrigerated. Orifice sizes $\frac{3}{16}$ " to $\frac{7}{16}$ " with capacities up to $3\frac{1}{2}$ tons Freon-12 or Sulphur, and 6 tons Methyl.

UNIT NUMBERS OF STANDARD NO. 673 VALVES

No.	Refrigerant and Operating Pressure	Orifice	Capacity
6731968	Freon-12—15 lb.	$\frac{3}{16}$ "	1.0 tons
6731428	Freon-12—35 lb.	$\frac{1}{4}$ "	1.0 tons
6731563	Methyl—10 lb.	$\frac{3}{16}$ "	2.0 tons
6731411	Methyl—40 lb.	$\frac{1}{4}$ "	2.0 tons

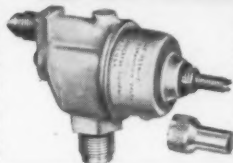
Inlets for above— $\frac{3}{8}$ " S.A.E. for $\frac{3}{8}$ " x $\frac{1}{4}$ " Reducing Nut. Outlets— $\frac{1}{2}$ " S.A.E.

Valves of other specifications are available.



NO. 672 AUTOMATIC EXPANSION VALVE

Pressure ranges 25" vacuum to 25 pounds pressure, or 0 to 50 pounds pressure. Orifices $\frac{1}{16}$ ", $\frac{3}{16}$ ", $\frac{1}{4}$ ", and $\frac{7}{16}$ ". Unit Number of Standard No. 672 Valve ($\frac{3}{16}$ " orifice, range 25" vacuum to 25 lbs. pressure)—No. 672451. Other sizes available.



NO. 787 LARGE CAPACITY THERMOSTATIC VALVES

Special alloy diaphragms give reliable and uniform operation—Delubaloy needles and seats, exceptionally durable and corrosion resistant, high side liquid precooled by means of integral heat exchanger. Unit number of Standard No. 787 Valve (capacity 6-11 tons Freon-12)—No. 78711. Other sizes available. Supplied with external equalizer.



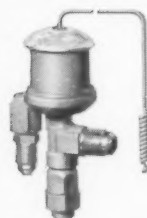
NO. 573 THERMOSTATIC EXPANSION VALVE

This valve, in $\frac{1}{2}$ -ton (Freon-12) capacity, has the quality and operating characteristics of the No. 673. Designed for small commercial installations, its double diaphragm construction makes possible close superheat control at low suction pressures. The two-diaphragm gas charged power element provides motor overload protection in its simplest, most effective form, using only one efficient power element.

UNIT NUMBERS OF STANDARD NO. 573 VALVES

No.	Refrigerant and Operating Pressure	Capacity
57300	Freon-12—45 lb.	.5 ton
57309	Freon-12—10 lb.	.5 ton
57311	Methyl—35 lb.	.9 ton
57315	Methyl—5 lb.	.9 ton

Inlet— $\frac{3}{8}$ " S.A.E. for $\frac{3}{8}$ " x $\frac{1}{4}$ " Reducing Nut. Outlet— $\frac{1}{2}$ " S.A.E. for $\frac{1}{2}$ " x $\frac{3}{8}$ " Reducing Nut.



NO. 899 THERMOSTATIC EXPANSION VALVE

For commercial installations. Furnished with or without external equalizer and has forged union connections. Capacity 1.5 to 6 tons Freon-12 or Sulphur—3 to 11 tons Methyl.



NO. 893 THERMOSTATIC EXPANSION VALVE

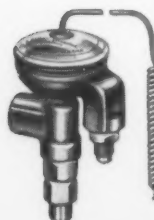
Rated at $\frac{1}{2}$ ton Freon-12 and Sulphur, .9 ton Methyl. Inlet $\frac{1}{4}$ " or $\frac{3}{8}$ " S.A.E. Outlet $\frac{1}{4}$ " female, MPT; $\frac{3}{8}$ " or $\frac{1}{2}$ " S.A.E. Regularly supplied with strainer at inlet.

UNIT NUMBERS OF STANDARD NO. 893 VALVES

No.	Refrigerant and Operating Pressure	Orifice	Capacity
89335	Freon-12—15 lb.	$\frac{1}{16}$ "	.5 tons
89330	Freon-12—35 lb.	$\frac{1}{8}$ "	.5 tons
89333	Methyl—10 lb.	$\frac{1}{16}$ "	1.0 tons
89329	Methyl—40 lb.	$\frac{1}{8}$ "	1.0 tons

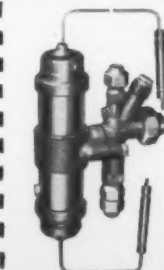
Inlets for above— $\frac{1}{4}$ " S.A.E. Outlets— $\frac{1}{2}$ " S.A.E.

Valves of other specifications are available.



NO. 793 DIFFERENTIAL TEMPERATURE EXPANSION VALVE—FOR OPERATION BELOW MINUS 30 DEG F

An entirely new design, it gives complete satisfaction on those difficult sub-zero jobs.



2188

DETROIT LUBRICATOR COMPANY General Offices: 5900 TRUMBULL AVENUE
DETROIT 8, MICHIGAN

Division of **AMERICAN RADIATOR & Standard Sanitary CORPORATION**
Canadian Representatives—RAILWAY AND ENGINEERING SPECIALTIES LIMITED, MONTREAL, TORONTO, WINNIPEG

"Detroit" Heating and Refrigeration Controls • Engine Safety Controls • Safety Float Valves and Oil Burner Accessories • "Detroit" Expansion Valves and Refrigeration Accessories • Stationary and Locomotive Lubricators





ISN'T THIS THE FAIR WAY?

LIKE any other progressive concern, we want and value new business, but we feel that our first obligation is to those wholesalers who have been our consistent and valued customers for years.

We want our regular wholesalers to know that we will not take on any new outlets until such time as we can, through our increasing production, supply all with adequate stocks of our products to fill their normal demands. We believe that this is the only fair way.

BUILT-IN QUALITY TIME-TESTED PERFORMANCE

Mueller Brass Co. valves, fittings and accessories are sturdily and dependably built. They have a well-earned reputation for built-in quality and time-tested performance.

The Mueller Brass Co. line of refrigeration products is exceptionally complete, and all products are designed and manufactured specifically for mechanical refrigeration work. Tees, nuts, and elbows are made of forged brass—and many other fittings, bodies, etc. from specially processed brass rod.

**ORDER THROUGH
YOUR
WHOLESALE**

MUELLER BRASS CO.
PORT HURON, MICHIGAN

HERE'S AMCOILS TWO-FOLD ANSWER TO FOOD CONDITIONING AND FREEZING

AMCOIL DELUXE FOOD CONDITIONER

Cools without Dehydration



Pat. Pend.

Only an Amcoil Deluxe Food Conditioner can do this *double job*—cooling and preventing dehydration at the same time. EXTRA FEATURES for complete automatic control, it maintains high humidities (up to 85%), while cooling down to 36° F. This double-duty performance not only preserves but insures a minimum waste from trimming and a maximum retention of natural bloom and freshness of meats, or on any products where dehydration is a factor. It sells itself because it pays for itself.

Also available now is the Utility Food Conditioner, designed to meet the need for a moderately priced unit for cooling and preventing dehydration.

Investigate these profit makers today. Send for bulletin FC (Deluxe) and UDF (Utility) NOW!

AMCOIL ZERO BREEZE LOW TEMP UNIT

Defrosts without Defreezing

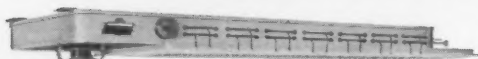


Pat. Pend.

The Amcoil Zero Breeze Low Temperature unit has a built-in device to assure automatic defrosting of the cooling coil during each refrigeration off cycle. It's something new for better preservation and storage of frozen food products at temperatures between +20° F and -20° F. It has three controls: (1) manual defrost, (2) semi-automatic defrost, or (3) fully automatic defrost.

For best results from this completely modern automatic, Zero Breeze low-temp unit, be sure you have an experienced low temperature installation man. The AMCOIL Engineering Department will make recommendations for your type of application on request.

COMING SOON AMCOIL DISPLAY CASE FOOD CONDITIONER



Especially designed for efficient cooling and preventing dehydration at temperatures down to 36° F. in all kinds of display cases. This unit can be easily installed without remodeling case.

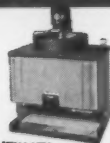
**DEALERS
JOBBER
STOCK THIS
COMPLETE
LINE
ACT TODAY**

OTHER FAST MOVING AMCOIL PROFIT MAKERS

AMCOIL SURFACE PAT. #2,402,262



UTILITY
FOOD CONDITIONER



UTILITY
DOWNDRAFT



ALSERVISE
OPEN CASE



TWO WAY
CEILING MOUNTED



REACH-IN
PANEL UNIT



COMFORTAIRE CONDITIONER
PAT. NO. 2,405,812

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William G. McGuire, 691 Yorkshire Road, N.E., Atlanta, Ga.
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AMERICAN COILS CO.

25-27 LEXINGTON STREET - NEWARK, N. J.

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1728

it's here...the control that's **NEW and DIFFERENT!**

**never before...
a control with
2-pole construction**

You've never seen such a control before
... because never before was there such
a refrigeration control as the PENN
Series 270.

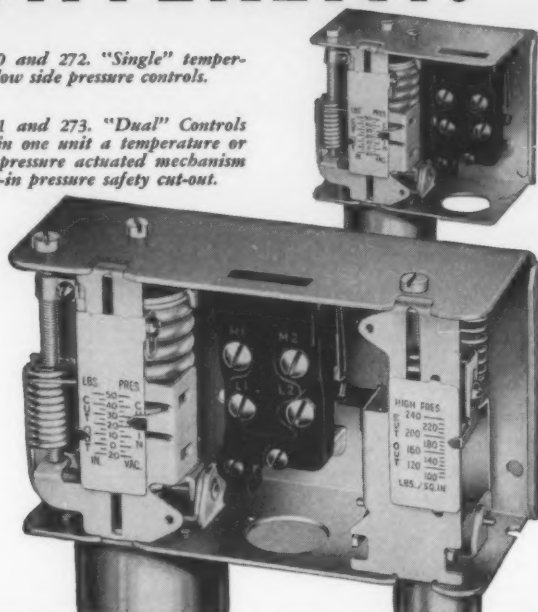
It's the first and only one in the refrigeration and air conditioning field that incorporates a load-carrying 2-pole construction.

The many new design features give greater dependability, greater accuracy, increased safety, better electrical performance, ease of installation and simple adjustments.

Penn Electric Switch Co., Goshen, Ind.,
Export Division: 13 E. 40th Street,
New York 16, U.S.A. In Canada:
Penn Controls, Ltd., Toronto, Ont.

Series 270 and 272. "Single" temperature or low side pressure controls.

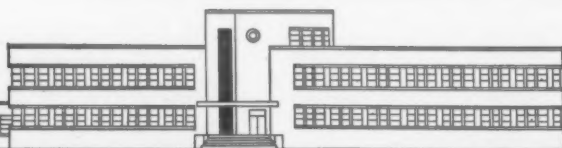
Series 271 and 273. "Dual" Controls combine in one unit a temperature or low side pressure actuated mechanism and built-in pressure safety cut-out.



8 Star Features 8

- ★ Double-pole construction provides versatility of application . . . and gives greater protection.
- ★ Direct-reading, visible, calibrated dial shows operating cut-in and cut-out points . . . simple adjustments.
- ★ "Dual" Controls have visible calibrated scale showing high pressure cut-out point.
- ★ Calibration or accuracy of performance not affected by vibration or mounting position.
- ★ Full range of differential adjustment in one model.
- ★ Two temperature ranges cover all requirements.
- ★ Sturdy contact mechanism with better electrical performance.
- ★ Large block assembly with terminals molded internally for strength and permanency.
- ★ Modern, attractive, high tensile strength plastic cover.

PENN



AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, ENGINES, PUMPS AND AIR COMPRESSORS

THE REFRIGERATION INDUSTRY



When Senator Kenneth Wherry of Nebraska snipped this piece of ribbon, the Fourth All-Industry Refrigeration and Air Conditioning Exposition was officially open. Industry officials witnessing this ceremony (with the titles they held at that time) are, left to right: Ray Farquhar, executive director, FFLMSA; C. G. Holme, Jr., president, NFFLA; J. W. Witte, president, FFLMSA; Herman Spoehrer, president, REMA; Ted I. Glou, president, REWA; Warren W. Farr, president, NARC; Clarence Buschkopf, acting president, RSES; K. B. Thorndike, Show chairman. Senator Wherry was the keynote speaker for NFFLA.

This is the way it was...

THE Fourth All-Industry Refrigeration and Air Conditioning Exposition was, by all odds, the greatest event of its kind in the industry's history.

In attendance, the Show smashed all records by a wide margin. No official attendance figures were given, but the unofficial consensus was that between 15,000 and 20,000 persons visited the Show at least once during its four-day run.

All during the Show, throngs lined up—literally—for an opportunity to see the latest developments and accessories, and their interest was well repaid. For a record number of new products were introduced by the 208 exhibitors who participated in the Show.

Here are some figures that may help you in visualizing just how

big the Show actually was:

It is estimated that 5,100 individual pieces of equipment—ranging in value from as high as \$20,000 to as low as 25 cents—were on display.

Of this number, approximately 1,400 equipment items were in actual operation, amounting to roughly 3,000 hp in refrigerating capacity.

Value of all equipment on display came to an estimated \$1,500,000, with another \$1,000,000 invested by exhibitors for displays and men to attend them.

The Show set records—and so did the meetings of the various industry associations held in connection with it. More than 1,000 service engineers registered for sessions of Refrigeration Service

Engineers Society; the meetings of National Frozen Food Locker Association drew some 500 locker operators; and the industry's newest association—the National Association of Refrigeration Contractors—found itself right up in the “big time” when more than 300 refrigeration men sat in on its two days of meetings.

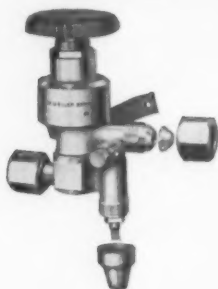
Time and place of the *Fifth All-Industry Show* have already been selected. The time—January, 1948; the place—Cleveland. Exact dates of the Show will be announced later.

This issue of *THE REFRIGERATION INDUSTRY* is devoted, for the most part, to presenting “the Show in print,” for the benefit of both those who were there and those who weren't.

NEW PRODUCTS ON PARADE AT THE ALL-INDUSTRY SHOW

Mueller Brass Shows Four New Products

Outstanding among the four new items displayed by Mueller Brass Co. is a two-temperature control valve designed for use in systems in which one compressor cools more than one unit and individual temperature con-



trol in these units is necessary. An exclusive feature is the provision for by-passing the automatic valve in case it is desired to pump all the refrigerant from the coil. Provision also is made for attachment of a pressure gauge while the line is under pressure.

There is no limit to the number of valves that can be installed on one system. Also shown were a side outlet strainer, a port-in-line valve, and a side outlet dehydrator.

United Shows New Ice Cube Maker

United Refrigerator Mfg. Co. introduced two new products: an ice cube maker with a capacity of 336 cubes per freezing, and a new reach-in freezer for multi-family use.

The ice cube maker, for commercial use, incorporates a storage tank at the top and has compartments below for olives, cherries, etc. Powdered by a special type condensing unit, the cabinet will be in production in January.

The reach-in freezer, holding a temperature of zero, has 6 cu. ft. capacity

with four compartments of 1.5 cu. ft. each. Designed for multi-family use in apartment buildings and similar locations, the model has stainless steel interior and polished aluminum exterior.

Kold-Hold Liners Ready In Two New Sizes

Two new sizes of standard cabinet liners are now available from Kold-Hold Mfg. Co. These liners are fabricated from "Serpentine" plate type evaporators, with all refrigerant joints eliminated and without inter-



ruption to the refrigerant flow. They are designed for sharp freezing, cooling, and holding frozen foods and perishables.

Of the two new sizes, Model 421 is 84 inches long and has a capacity of 20.2 cu. ft., while Model 423 is 66½ inches long and has a capacity of 16.1 cu. ft.

Day & Night Shows New Water Cooler

A new model bubbler type drinking fountain, model DU 2-1, was introduced by Day & Night Mfg. Co. in its Show exhibit. The unit has a 2-gallon storage tank, and uses a ¼ hp condensing unit.

Of interest also was the company's newest contribution to the refrigeration field, "Flash Kold" sheets. These plate evaporators are simple in construction and are adaptable to various shapes and sizes for all types of

low temperature applications.

Besides cabinet, shelf, wall and ceiling mountings, the sheets are adaptable to and usable in large capacity bunkers for locker plant freezing. Features include low cost, maximum prime cooling surface, and high heat exchange per unit of area.

Tests Show Insulation Value of Ferro-Therm

American Flange & Mfg. Co. displayed its Ferro-Therm steel insulation for the first time at the Show, dramatizing its effectiveness by means of a test unit employing three 115 watt heating elements and thermometers located inside and outside of a space insulated with the material. Within the insulated area, the temperature was about 80 F; on the outside, the temperature was above 200 F.

Balsa Wood Panels for Insulation

Balsa Ecuador Lumber Co. introduced balsa wood panels for insulation, and said they were available in volume for immediate shipment. Balsa wood, it is claimed, has 92% dead air in minute, flexible wall cells.



THE REFRIGERATION INDUSTRY

REFRIGERATION MEN from all over North America came to this All-Industry Show—as they had come to the ones before it—with one principle purpose, to see the **NEW PRODUCTS AND ACCESSORIES** that were shown. This year manufacturers “took the wraps” off a record number of new devices; many of the items introduced were hand-made models, built especially for display at the Show. In view of raw materials

problems, a surprising number of the newest products were announced for “immediate delivery.”

Because of the industry-wide interest in “what’s new,” a major portion of this issue has been turned over to a review of the products introduced at the Show. Space does not permit a complete or detailed listing; those items crowded out of this issue will be covered next month. But the new products covered below will, we hope, give you

some idea of the magnitude of the Show and of the variety of items that were introduced.

More formalized announcements of most of the products listed will be made by the manufacturers later; however, if you would like more detailed data on any of them in advance, drop us a card and we’ll be happy to pass on your requests to the manufacturers.

The Editors

Average density is between 9 and 10 lbs. per cu. ft., and at a mean temperature of 75.4 F the insulation is said to have a Btu conductivity of .317.

It is applied in the same manner as corkboard, and in similar thicknesses. Panels are being produced in thicknesses from 1” to 3½” in standard widths of 12” and lengths of 36”. Special orders, however, can be filled up to a maximum of 36” wide x 120” long.

Metal Bubbler Featured on New Ebco Coolers

Ebco Mfg. Co. exhibited three new lines of “Oasis” water coolers, the OP-10 which is already in production and the OP-20 and OB-4 on which production is expected to begin in the near future.

These coolers will feature the new metal bubbler which also is being billed as an ideal replacement for the plastic bubblers with which wartime models were equipped as a result of metal shortages. This new bubbler (No. 12000) has an all brass body

with roller bearing operated mechanism and special alloy brass forgings. Bubbler guard is chrome plated.

Imperial Announces New DiaSeal Valve

Imperial Brass Co. announced its new DiaSeal valve, a unit for which the following features are claimed:

No springs—direct lift positive control with flow in either direction; only two moving parts—simple construction to assure greater dependability; finger-tip action; both internal parts lift out with bonnet, facili-



tating soldering in line; long life diaphragm, said to be impervious to all common refrigerants; inlet and outlet ports in line to simplify installation.

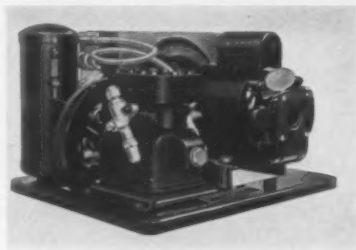
Valve bodies are made from brass forgings and are non-porous, strong and uniform. The “triple seal” feature is included in all flare connections ⅜” and larger.

Improved Carbonator Shown By Hudson

Exhibited by Hudson Products Co. was its improved constant pressure carbonator for installation in any sweet water bath, bottle cooler, walk-in box, or similar application. An exclusive feature permits an even pressure of 125 pounds at the draft arm regardless of water pressure.

Jahco Making Both Open & Sealed Units

New open-type condensing units, for use on a wide variety of refrigeration equipment, have been added to the line of products Jack & Heintz



Precision Industries, Inc., is developing for the refrigeration field.

This is the second refrigeration product released by the engineering laboratories of Jack & Heintz within three months. Previously the company had announced the development of a hermetic compressor, weighing approximately ⅓ of conventional models, for use in home refrigerators up to 9 cu. ft. in size. Both type units—the “open” and the “hermetic”—were shown publicly for the first time at the All-Industry Show.

Production of the open-type condensing units, in ¼ and ½ hp models, is scheduled to get under way before the first of the year. Production tooling for the hermetic compressor is progressing satisfactorily, the company stated.

Regarding the open-type condensing units, the company pointed out that undivided responsibility of one manufacturer on such components as motors and compressors is expected to simplify service problems on equipment and to expedite a more rapid production schedule as current material shortages become relieved.



BUYER MEETS SELLER

Photos on this page are by
Irving Alter of the Harry Alter
Co. and Austin Jones of Kerotest.



(Left) W. J. Lambert and J. W. Rubenson of Day & Night Mfg. Co., discuss discounts and deliveries with William Beckeman, National Refrigeration Service, E. Orange, N. J.; and W. I. Freeman, N. Y. refrigeration supplies wholesaler. (Right) Looking over



one of Servel's new supermetrics are T. W. Giller and R. G. Ortohoefer of Ebco Mfg. Co.; John McKinley of Refrigeration Maintenance, Cleveland; Joe Lutz of Servel; and Howard Trace of Refrigeration Maintenance, Cleveland.



(Left) In this photo of the Jordan Refrigerator Co. exhibit are Harry Hanover, John Percham, and Maurice Zatko, all of Jordan, and an unidentified visitor. (Center) Paus-



ing for a breather in the Schnacke booth are L. C. Roney, L. C. Roney Co., Englewood, Calif.; and F. C. Schnacke, president of Schnacke, Inc. (Right) Three Texans,



Allan Cody, William Cody Co.; Paul E. Richards, Rich-Air, Inc.; and S. L. Weiler, La-marr Equipment Co., seem pleased as they inspect one of the new Bush cooling units.



(Left) H. W. Holt, William Orr Co., Pittsburgh; and Joe E. Parker, Atlanta manufacturers' representative inspect Tecumseh's sealed-in-glass compressor model. In the background are James Elliott, Tecumseh,



and Jules Beneke, St. Louis manufacturers' representative. (Center) J. Rasmussen, American Coils, explains a feature to R. L. Hinshaw, Hinshaw Supply Co., San Francisco, while H. Raskin of the company points



out another feature to George H. Nelson, Ansul, and William Davidson, Hinshaw Supply. (Right) In the McIntire Connector display L. S. Dun explains features of the drier arrangement to an interested visitor.



(Left) Looking over Panelectric's new automatic ice cube makers are Carl Truax, Capitol Refrigeration Co., Albany, N. Y.; George B. Hermans, Jr., Allied Store Equipment Co., Minneapolis; E. Robinson, Panelectric Corp.; and Larry Johnston, Capitol Refrigeration Co. (Center) Getting details of new Brunswick "Blue Flash" freezers are S. E. Trackman, Refrigeration Sales Corp., Cleveland; Tom Millott, Conditioned Air, Inc., St. Paul; as supplied by H. D. Graves, Brunswick representative. (Right) Old



friends visit Jerry Jernberg in the Minneapolis Show Case exhibit. Shown are Carl Nevinger, Nevinger Mfg. Co., Greenville, Ill.; H. J. Hedrick, Mills Industries, Inc.; A. M. Rohr (back to camera), Stangard-Dickerson Corp.; and Jerry himself.



(Left) In the Baker Ice Machine Co. display, Sterling Smith poses Miss Margaret Sparka of the A.S.R.E. headquarters staff on Baker's new F-82 ammonia condensing unit. (Right) Charles Logan (center), Electric



Power Equipment Corp., shows one of Elpeco's "spotlighted" products to Gus Larson, Gustave A. Larson Co., Milwaukee parts and supplies wholesaler; and Paul Domke, of Mueller Brass Co., Port Huron, Mich.

SELLER MEETS BUYER

Photos on this page are by Irving Alter of the Harry Alter Co. and Austin Jones of Kerotest.



(Left) Ann Carroll and James R. Davis, Omaha Body & Equipment Co., with the truck refrigeration unit being manufactured by Sterling Refrigeration Co. and distributed nationally by Omaha Body & Equipment



Co. (Center) Line-up in the Detroit Lubricator exhibit with Jack Strauss; Ted Coggin; Roland M. Bixler, J-B-T Instruments Co.; Frank Carter and Bud McKee. (Right) Interested in their products are Kerotest



men A. B. Harvey, H. P. O'Brien, R. W. Mueller, Jr. and J. A. Morris, as are Jerry Robinson and Lem Branson of California Refrigerator Co., W. R. Fox of Redmond Co. and L. W. Moserey.



(Left) Participants in this tug-of-war with copper tubing are Doug Marshall, R. D. Marshall & Co., Inc., Albany; and M. B. Allan, American Brass Co. (Center) This



scene in the Ranco exhibit has as central characters J. D. Merkle and R. R. Dunlop of Ranco, and Mrs. Frank Slagel, wife of the Los Angeles manufacturers' representa-



tive. (Right) Electromatic's animated solenoid valve display is explained to C. G. Gardner, Machlanburg Supply Co., Oklahoma City, by Mel Madden of Electromatic.



(Left) Discussing the refrigerant situation in Ansul's exhibit area are H. R. Higley, Ansul president; T. J. Ammel, Kelvinator general office; and Herman Goldberg, Herman Goldberg Co., Chicago. (Center) In



Honeywell's display our photographer caught this group of show-goers which includes William Kramer, Minneapolis-Honeywell; Albert Weil, Refrigeration Maintenance, Chicago; Sidney Culver; and Mrs. Albert



Weil. (Right) Cutler-Hammer and Ben Hur freezer representatives, left to right, are C. W. Kuhn, Cutler-Hammer; C. W. Stoner, Ben Hur; C. W. Greenman, Cutler-Hammer; and W. J. Wawizonel, Ben Hur.

NEW PRODUCTS ON PARADE

Ring of Steel Seals Livar Compressors

The Livar Corp. showed its new "Forgeseal" compressor and condensing unit. Top and bottom covers of this compressor are sealed together by means of a steel ring which is induction heated, forged around the body, and then shrunk on beads so that the included angle thoroughly seals the unit against leaks.

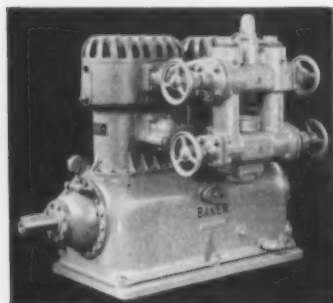
Motor stator of this compressor is cooled by a constant stream of oil forced around it, and the heat thus absorbed by the oil is removed by the suction gas.

Available in $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{2}$, and $\frac{3}{4}$ hp, Livar condensing units are designed for application to any domestic or commercial cabinet in a balanced refrigerating system.

F-82 Compressor Is New With Baker

Baker Ice Machine Co., Inc. introduced its model F 82 ammonia compressor, a four cylinder, 6" x 5 $\frac{1}{2}$ " unit precision built to produce greater capacity in smaller size.

Cylinders are semi-steel, precision bored and hone finished; water jacket



is cast integral. Pistons are of double-trunk type, semi-steel, full skirt, precision ground.

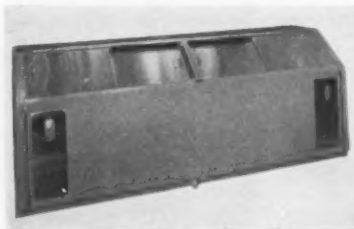
Units are equipped with 75 hp motors, and have capacities ranging from 32 tons, at minus 10 F evaporator temperature, to 106 tons, at plus 40 F evaporator and 58.6 pressure psi gauge.

New 10-Foot Freezer In Amana's Line

Introduced by Amana Society was its model 110 freezer, a unit of 10.25 cu. ft. size with indicating thermometer and control mounted at the front of the cabinet. The cabinet, which will be in full production as soon as materials permit, is powered by a $\frac{1}{4}$ hp hermetic condensing unit, and is priced at about \$360.

Master-Bilt Has New Bottle Cooler

Master-Bilt Refrigeration Mfg. Co. introduced three deluxe models of farm and home freezers, in sizes of



8 $\frac{1}{2}$, 13 $\frac{1}{2}$ and 20 cu. ft., with cabinets styled along modern lines.

Also in the company's product line-up was a new 8 $\frac{1}{2}$ foot bottle beer cooler that, it is claimed, cools 40 cases of beer at one time. One of the company's "Cold Wall" milk coolers was displayed, as was a direct-draw beer cooler.

New Airserco Products Revealed

New products introduced by Airserco Products Co. included heavy-duty Carrene meters for all Grunow models; gauge mounts for use in mounting units on a wall; a 300 lb. tank or drum holder for service shop use; rubber unit mounts packaged in kits, for use as noise eliminators in servicing work; and a new wiring harness which has a variety of uses in field and shop work.

In connection with a display of its

thermostatic control tester, a product previously on the market, the company had available a card listing cut-in, cut-out and defrost temperatures for virtually all makes and models of household units. Reverse side of the card carries a temperature-pressure chart and a table of approximate pressure control settings for various types of applications using popular refrigerants.

Wolverine Tube Shows Tube Efficiency Tests

Two condenser units providing a comparison of the costs, construction, application and efficiency of plain copper tube as against integral finned tubing in refrigeration condenser work were shown in the Wolverine Tube division exhibit. Both units were based on 3-ton capacity and were built by Acme Industries, Jackson, Mich. Resulting comparison charts and actual units were spotlighted in the company's display.

New Products Added To Coolstream Line

Coolstream Corp. introduced four new products: a 1-gal. table model water cooler powered by a $\frac{1}{20}$ hp



unit, a 5-gal. bottle-type cooler, a 10-gal. pressure type cooler, and a Controldtemp condensing unit in $\frac{1}{2}$ and $\frac{1}{3}$ hp sizes, only 7 $\frac{1}{2}$ " wide, 3 $\frac{5}{8}$ " high and 3" deep, designed especially for low temperature work.

The table model water cooler is

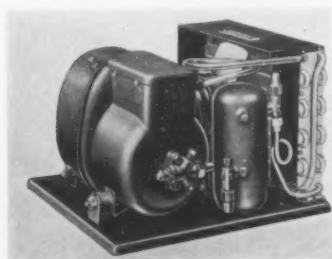
AT THE ALL-INDUSTRY SHOW

of stainless steel, and requires but 10 x 14" space. It has sanitary features identical with the larger Coolstream coolers, including a new type spigot which prevents contact between hand and water and a bottle stopper which allows the bottle to be placed in the cooler without the hands touching the tube through which the water is fed.

The midget Controldtemp compressor (available now, less motor) weighs only 10 lbs. Within 30 days, the company expects to have it down to one-third the $7\frac{1}{2}$ " x $3\frac{5}{8}$ " x 3" dimensions detailed above. It is for use with Freon-12 only, and at the Show was holding a 21 cu. ft. freezer at minus 16 F.

"Supermetic" Units Lead Servel Line

Various models of "Supermetic" condensing units were featured in the display of Servel, Inc. The company has been in production for some time on these units in the smaller sizes up to $\frac{3}{4}$ hp. Extension of the line up to 3 hp is planned, but these larger



units are not yet in production. Twelve models will be available in the complete line, which is designed for all popular applications in the fractional horsepower field.

New Window Cooler Line Exhibited By Pacific

A new entry into the room air conditioner field, Pacific Mfg. Corp.,

showed its packaged window cooler unit. Designed for limited application in home, office, institutions, or commercial establishments, the unit is said to be capable of properly conditioning a room approximately 14 x 16 feet with an average ceiling height of 9 feet.

The cabinet itself measures $22\frac{1}{4}$ inches wide, $13\frac{3}{8}$ inches high, and



$34\frac{1}{2}$ inches deep, and when installed extends into the room approximately 14 inches. It is insulated with a 1-in. blanket of Fiberglas.

Cooling is provided by a twin-cylinder hermetically sealed compressor with air cooled fin type condenser and a fin type copper coil evaporator.

Showroom Ideas in Frigidaire Display

Helpful ideas in commercial refrigeration showroom display technique for dealers were featured in the Frigidaire exhibit, which was designed around the "selling station" idea which has already been adopted by many Frigidaire dealers in their post-war showrooms. Commercial dealers had the opportunity to study advantages of an up-to-the-minute showroom display.

Commercial refrigeration equipment featured was representative of the company's extensive line of products. Condensing units, including combination air and water cooled models, water-cooled and the evaporative type, were exhibited along with forced-air cooling units. Replacement, repair and installation parts for commercial refrigeration equipment also were shown.

Aminco to Resume Dehydrator Series

American Injector Co. announced at the Show that it would soon resume the manufacture of its line of "Sure Dry" dehydrators using reinforced finger screens. These and other Aminco products are available through refrigeration supply wholesalers.

Introduced at the Show was the "500" series of oil separators with non-removable head. All separators are for use with all popular refrigerants.

New A-P Valves Limit Suction Pressure

A new series of expansion valves which limit the operating suction pressure to a predetermined setting and thus prevent condensing unit motor overloading was introduced by Automatic Products Co.

These valves, known as Model 211 in the non-adjustable type and Model 212 in the adjustable type, offer all the standard A-P features in addition to their new qualities.

Tecumseh Hermetics Up to 1/3 Hp

Tecumseh Products Co.'s line of hermetic condensing units and com-



pressors is being produced in seven basic models ranging from $\frac{1}{8}$ to $\frac{1}{3}$ hp. The line includes fan cooled models in all sizes and static con-

NEW PRODUCTS ON PARADE

denser models to and including $\frac{1}{8}$ hp rating.

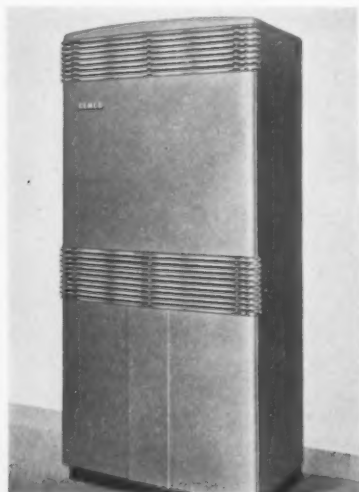
These basic models, with various combinations of compressors, motors and condensers are built into units covering the entire range of applications from $\frac{1}{8}$ to $\frac{1}{3}$ hp.

Alco Valve Introduces Three New Controls

Introduced by Alco Valve Co. were three new controls—a temperature over-ride attachment for use with standard Alco valves in air conditioning installations to maintain constant temperature control; a snap-action, temperature responsive valve to regulate flow in multiple evaporator systems; and an electronic liquid level controller.

Gemco Packaged Cooler Has 2-Stage Compressor

A two-stage compressor is the standout feature of the packaged air conditioning unit introduced by General Engineering & Mfg. Co. The



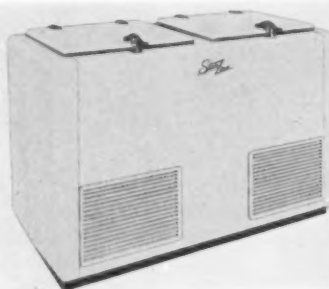
Gemco unit is available in both 3 and 5 ton sizes.

Among the "firsts" claimed for this new conditioner are: aluminum compressor and motor housing; motor

cooled with refrigerant gas, copper coil set within an aluminum frame and fins; oil separator and automatic oil return; unloaded starting; glass wool insulation throughout; electrical controls assembled in one cabinet for greater convenience.

Freezers, Cold Plates Top Stangard Exhibit

Stangard-Dickerson Corp. showed three new models of its farm and home freezers at the Show. These



units, produced in $4\frac{1}{2}$, 10 and 17 cu. ft. capacities, incorporate the "prime surface" feature of the company's cold plate applications.

Units in the line have all-steel cabinets, and are powered by hermetically sealed refrigerating machines. Stangard evaporator plates were shown in operation by means of a glass working model.

Two-Temp Refrigerator Introduced By Jordon

Featured among the new products shown by Jordon Refrigerator Co. was a two-temperature reach-in refrigerator providing 6 cu. ft. of frozen food storage space and 36 cu. ft. of normal temperature storage space. Powered by a single $\frac{1}{2}$ -hp compressor, this unit has the frozen food compartment located at the top of the cabinet, with a perforated bottom through which the 0° air filters down into the regular compartment.

Mills Unveils Its Direct Drive Units

Mills Industries, Inc. introduced its direct drive compressor in $\frac{1}{4}$ and $\frac{1}{3}$ hp sizes. Features include 40% lighter weight, a reduction of the cubic size by one-half, field serviceability, interchangeable pistons and cylinder sleeves, pressure lubrication system, patented shaft seal and overload valve on the piston-head to assure low starting torque.

The unit is designed around a single shaft which operates from the motor to both the compressor and the cooling fan, assuring better heat, it is claimed.

Temprite Has New Water Cooler Model

Temprite Products Co. introduced a new complete pressure-type water cooler, and a storage type direct expansion water cooler unit designed primarily for use in self-contained cabinet water coolers. Known as the model XW-101, the cooler can be used with automatic expansion valve,

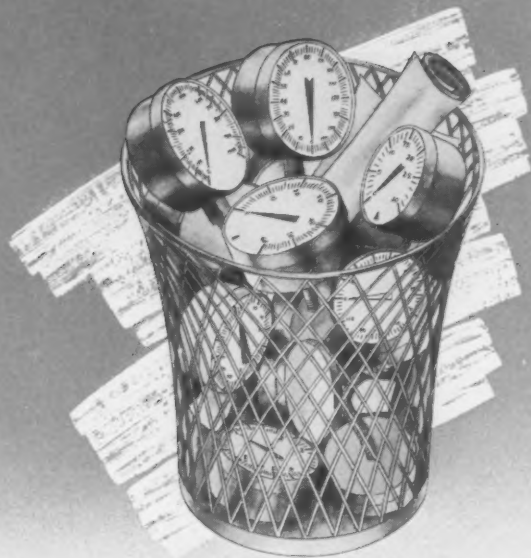


high float or capillary tube assembly, and with Freon-12 or methyl chloride refrigerant.

The PB-10 cabinet type water cooler employs a $\frac{1}{6}$ hp sealed condensing unit. Top and drain assembly is of 18-8 stainless steel, as are cooler and storage tank. Bubbler is

Continued on page 56

Chief Engineer Standardized on White-Rodgers Pressure Controls because

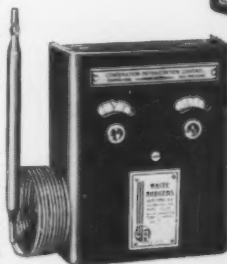


HE COULD THROW AWAY HIS GAGES

Because the dials of White-Rodgers pressure controls are marked accurately in pounds of pressure, or in inches of vacuum, the Chief Engineer of a large refrigeration manufacturer no longer needed to rely on gages to check the operating pressures of his products.

In addition, service costs decreased materially by the end of the first year after standardizing on White-Rodgers automatic controls.

If *your* air-conditioning and refrigeration products depend on the control of temperature or pressure for their operation, White-Rodgers controls can make them more dependable and satisfactory to your customers.



WHITE-RODGERS ELECTRIC CO.

ST. LOUIS 6, MISSOURI

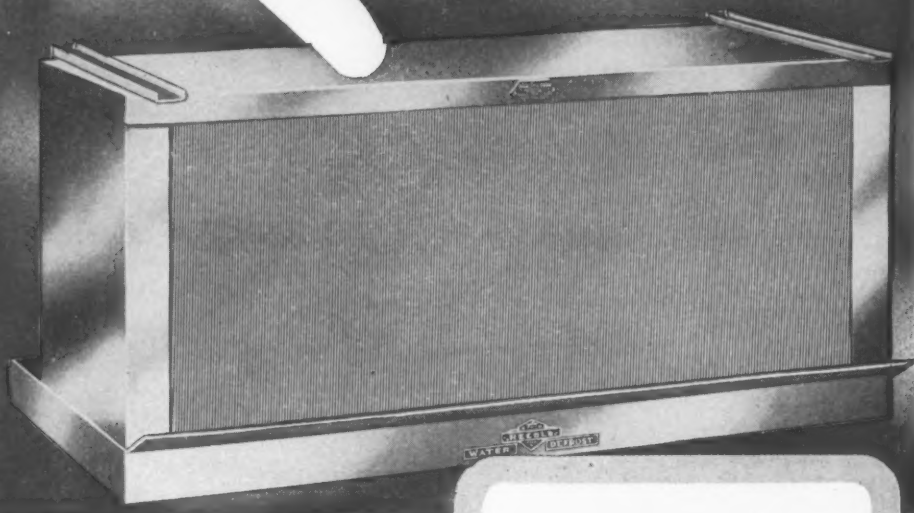
Controls for Refrigeration • Heating • Air Conditioning

U.S. PATENT

NO. 2,219,393

RECOLD

WATER DEFROST PATENT UPHELD



Pioneering in the field of low temperature refrigeration, RECOLD introduced the water defrost system. RECOLD pointed the way and others have followed this leadership.

Now that the United States District Court has upheld the validity and charge of infringement of the RECOLD water defrost patent, only RECOLD and its licensees can supply water defrost for low temperature refrigeration.

On September 26, 1946 United States District Judge Pierson M. Hall upheld the validity of the RECOLD water defrost patent and sustained the charge of infringement.

**REFRIGERATION
ENGINEERING INC.**

MANUFACTURERS



LOS ANGELES
CALIFORNIA

NARC COMES OF AGE

Any doubts that might have been entertained by officers of National Association of Refrigeration Contractors about their organization's place in the refrigeration industry were dispelled by the attendance and interest at the organization's first annual meeting Oct. 28-29 in Cleveland.

More than 300 contractors, from all sections of the country, registered and attended the two-day sessions, and well over 50 new memberships were recorded during the meeting period, with the prospect that several additional members will evolve.

Uncertain as to attendance before the meeting, NARC officials had their answer on the first day, when the room originally scheduled for the session was so overcrowded that the scene had to be shifted to the Allerton hotel's grand ball room.

Needs Stressed

Accent during the sessions was on these needs of the association: establishment of standard methods and procedures on business and trade practices, compilation of industry statistics, and standard procedures on labor, public and governmental relations.

Special emphasis was placed on controlling unfair trade practices and unfair competition, setting up refrigeration licensing codes, and the need to have refrigeration recognized as a separate craft in respect to such matters as labor relations and certain types of business insurance.

Warren W. Farr, Cleveland, was re-elected president. E. S. Wright, Youngstown, Ohio, was elected first vice president; J. F. Park, Los Angeles, was re-elected second vice president; Nathan Edelstein, New York City, was elected recording secretary; and A. M. Palen, St. Paul, was re-elected treasurer. L. C. Anderson, River Forest, Ill., was re-elected sergeant-at-arms.

Four directors were re-elected: Lee Shirar, San Francisco; W. L. Drake, Indianapolis; W. G. Euth, Detroit; C. R. Faulkner, Longview, Tex. Two new directors were elected: Ralph W. Lampie, Richmond, Va., and F. J. Zoppel, Columbus, Ohio.

Two meetings of the NARC board of directors resulted in the following actions:

1. A paper is to be prepared, outlining the advantages and disadvantages of a licensing regulation in any state or community either as a part of or separate from a refrigeration safety code.
2. Members are to be urged to notify NARC headquarters of any city or state where a licensing regulation or code is being considered or proposed, and to send in a copy of the proposed code or licensing provision.
3. A code of ethics and business procedure for the refrigeration contracting industry is to be prepared, in order to further cleancut, sound and constructive business practices.
4. It was voted to notify the Office of Price Administration that all OPA



NARC president Warren Farr receives the gavel used at the organization meeting of the association in Chicago a year ago this month. Perry Grocott (left) made the presentation for the Mahoning Valley Refrigeration Contractors Association.

regulations affecting refrigeration contractors should be decontrolled.

5. It was voted that NARC investigate the possibility of starting a test case to litigate the question of wages and hours with reference to commercial refrigeration, in order to attempt to prove that a commercial refrigeration contractor doing intrastate work shall not be considered as doing interstate work and thus be subject to the Fair Labor Standards Act.

Progress Cited

In opening the meeting, President Warren Farr outlined NARC's activities and progress since the organizational meeting Jan. 21 and 22. He told of the contacts established and maintained with other industry groups and Governmental agencies; and said that now, for the first time, refrigeration contractors had an organization

Continued on page 48



Indicative of the widespread interest in what NARC is doing for refrigeration contractors is this scene at the luncheon meeting on Nov. 29, attended by more than 200 contractors and guests. At the right are all save two of NARC's directors. Standing:



F. J. Zoppel, Columbus, Ohio; Lee Shirar, San Francisco; Warren Farr, Cleveland; C. R. Faulkner, Longview, Tex.; Ed Wright, Youngstown, Ohio. Seated: A. M. Palen, St. Paul; L. C. Anderson, River Forest, Ill.; W. L. Drake, Indianapolis; Nathan Edelstein, New York City; W. G. Euth, Detroit. Not in the photo are J. F. Park, Los Angeles, and Ralph Lampie, Richmond, Va.

1,000 SERVICE MEN SET RSES MEETING RECORD

More than 1,000 registered refrigeration service men and guests packed the Hotel Hollenden for the ninth annual convention of the Refrigeration Service Engineers Society. This registration figures sets a new attendance record for the Society.

Highlights of the convention, in addition to the unusually well prepared and well attended educational sessions, were the election of officers and a peppery, dynamite-laden discussion of whether or not the Society should broaden its scope.

Taking precedence even over the somewhat hotly contested election of officers, this discussion of the future scope of the organization centered primarily around the recognized fact that many RSES members had "graduated" into the status of refrigeration contractors.

Kernel of the debate was whether or not the activities of the Society should be extended to cover this steadily growing group of individuals. The recommendation of the Illinois State Association that such an extension be effected was referred to the board of directors.

New officers of the RSES, voted



Photo by Irving Alter
Ernie Plesskott of St. Louis, past president of RSES, receives a plaque in recognition of his services from Gordon A. Burns of Toronto, Ontario, Canada, also a past president.



Photo by Irving Alter
These are members of the Ohio RSES and its auxiliary which played host to the national society at its ninth meeting.

into office individually after a minor rebellion from the floor, are: W. W. Allison, Los Angeles, president; William Marshall, Leaside, Ontario, Canada, 1st vice president; Charles Harris, Cambridge, Mass., 2nd vice president; C. J. Doyle, Omaha, treasurer; J. L. Driskell, Burley, Idaho, sergeant-at arms. H. T. McDermott, unanimously re-elected as

Continued on page 74

REWA ORGANIZATION NOW 162 STRONG

Recording a growth in membership to 162 refrigeration wholesaling firms, Refrigeration Equipment Wholesalers Association in meetings during the All-Industry Show reported progress in dealing with several industry problems.

President Ted I. Glou of Rewa re-



Photo by Austin Jones, Kerotest
Herman Spoehrer, REMA president, receives a check for \$2,500 from REWA president Ted Glou as the wholesalers' contribution to the manufacturers' public relations program for the coming year.

ported that the organization has been active for some time in efforts to alleviate the Freon shortage.

He also announced the appointment of a new committee, which will work with the Secretary of Commerce in the program now under way in the Commerce Department looking to a revision of present business regulations and trade practices.

The next annual meeting of REWA, it was announced, has been set for March 20 to 22, 1947, at the Edgewater Beach Hotel, Chicago.

George Roche, chairman of REWA's manufacturers relations committee, offered the following pro-

Continued on page 75

COOLING CONTRACTOR HEADS LOCKER SUPPLIERS

Election of new officers for the coming year constituted one of the primary items on the agenda of the Frozen Food Locker Manufacturers and Suppliers Association when that group gathered at its annual convention held in conjunction with the All-Industry Show.



Named new president of the association was L. O. Warner, head of Refrigeration Service Shop, Inc., Dayton, Ohio. George Foerstner of the Amana Society, Amana, Iowa, was named treasurer. Elected to continue as executive director was Ray Farquhar of Omaha.

COMMERCIAL SALES DEALERS ORGANIZE

Formation of a new national organization, to be known as the National Commercial Refrigerator Sales Association, was effected at a meeting in Cleveland Oct. 30 during the All-Industry Refrigeration and Air Conditioning Exposition. The new association was formed following a luncheon meeting in the Carter hotel, attended by about 125 representatives from all sections of the country.

Membership in the new organization comprises firms selling commercial refrigeration equipment—cases, coolers, and the like—to the end user.

George B. Herman, Allied Store Equipment Co., Minneapolis, was

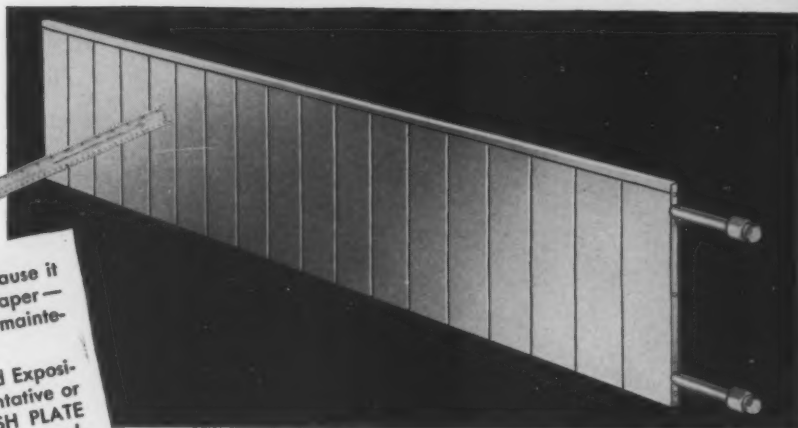
Continued on page 74



Photo by Austin Jones, Kerotest
Burlesquing the trials and tribulations of a locker operator, locker suppliers cooperated with the operators themselves in presenting a farcial skit, a scene from which is shown.



Sensation of the CLEVELAND EXPOSITION



It is called the "FLASH PLATE" because it is **FASTER** freezing — operates cheaper — costs less, both in operation and maintenance.

If you did not visit the Cleveland Exposition ask your **PEERLESS** representative or wholesaler what this new **FLASH PLATE** can do to help you make a better product or installation.

DELIVERIES? ——— YES!

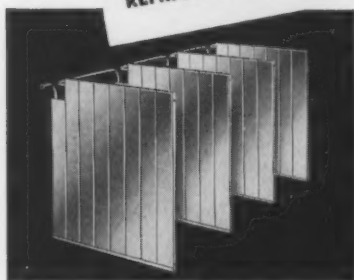
PEERLESS is PRICELESS in QUALITY

PEERLESS FLASH PLATES are available for —

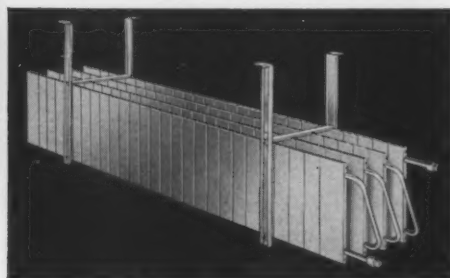
Display Cases
Store and Window Displays
Food Counters
Salad Pans
Shelf Plates for Fast Freezing
Soda Fountain Conversions
Truck Refrigeration

Farm Freezer Cabinets
Home Freezer Cabinets
Walk-In Coolers
Locker Plants
Ice Cream Cabinets
Milk Can Coolers
Beverage Cooler Applications
Frozen Food Processing and Storage Plants

**SOLD THROUGH LEADING
REFRIGERATION SUPPLY WHOLESALERS**



These illustrations show **PEERLESS FLASH PLATES** as banks for locker storage, etc.



THE NEW PEERLESS "FLASH PLATE"

A flat, freezing surface constructed of non-corrosive aluminum plate mechanically bonded together by copper or aluminum tubes which provide the refrigerant circuit.

The **NEW PEERLESS** challenge to the requirements of that potential giant—the low temperature, frozen food field—was the introduction of the **ALL-NEW, ALL-PURPOSE FLASH PLATES** at the Cleveland Exposition which once more demonstrated the ability of **PEERLESS**, long a pioneer in the refrigeration industry, to meet the requirements of the most exacting buyers. Incorporated are engineering improvements which insure top performance.

THOUSANDS saw and admired the gleaming beauty of this new freezer surface.

THOUSANDS felt and lifted this modern, weight-saving, efficient zero and sub-zero producing plate.

And the **ANSWER** was —
"IT'S **PEERLESS** AGAIN!"

PEERLESS of AMERICA, Inc.

General Sales Offices ... 2901 Lawrence Ave. Chicago 25, Illinois

UP AND DOWN IN PIC

Here is a typical cross-section
were on display at the Fourth
in which they were shown to t

1—Cold Plates

2—Seals

3—Ice Makers

4—Insulation

5—Motors

6—Hardware

7—Food Freezers

8—Coils

9—Condensing Units



N THE AISLES TURES

f the types of products which
ll-Industry Show and the way
eager, buying-minded crowds.

10—Home Freezers

11—Commercial Cabinets

12—Hermetic Compressors

13—Accessories

14—Tools

15—Room Coolers

16—Truck Units

17—Valves and Fittings

18—Display Cases



What
CONTROLS
Shall We
Use?

**The RIGHT Control for EACH
Application gives BEST Results!**

Milk, Beverage, Water Coolers . . . *L480B Temperature Control*

Reach-In Meat Cases *Polartron System of Automatic Defrosting
W90 Temperature Control plus
P420B Pressure Control*

Soda Fountains } *P420B Pressure Control or*
Ice Cream Cabinets } *L480B Temperature Control*

Walk-In Meat Boxes *TA420 Frigistat plus W35A Relay
plus P421B Pressure Control*

Locker Storage Units *T414A Temperature Control plus
L413A or P421B Pressure Control*

Vegetable Cases *W90A Temperature Control
plus P420B Pressure Control*

Home Freezers } *L480B Temperature Control*
Low Temperature Cabinets }

Other M-H Controls are readily available for all types of applications. Minneapolis-Honeywell Regulator Company, 2909 Fourth Avenue South, Minneapolis 8, Minnesota. Branches and distributing offices in all principal cities.

MINNEAPOLIS
Honeywell
CONTROL SYSTEMS

THE POLARTRON SYSTEM of FROST FREE REFRIGERATION

REFRIGERATION INDUSTRY

News

CLAROSTAT ACQUIRES KURMAN ELECTRONICS

The entire outstanding stock of Kurman Electronics Corp., with offices, research laboratory, and plant in Long Island City, N. Y., has been acquired by Clarostat Mfg. Co., Inc., of Brooklyn, N. Y.

For years past, Kurman Electronics has developed and manufactured a complete line of relays, electric timing motors, and self-starting clocks for household and other uses. Its products will now receive far greater distribution through the industrial and jobber sales organization of the parent company.

New officers of Kurman Electronics are: Victor Mucher, president; George Mucher, executive vice president; Nathan Kurman, vice president in charge of research; William Mucher, treasurer; and Charles H. Burnell, secretary.

MOTOR OUTPUT HIGH BUT STILL SHORT

Production of fractional horsepower motors in September remained at the August level of about 1.8 million units, and was expected to remain at that level during October, but the backlog of unfilled orders remains as high as formerly, Civilian Production Administration reports.

Unfilled orders as of September 1 were 38 million units, the equivalent of 21 months' production, CPA said.

NAIRM ELECTS OFFICERS

New officers of the National Association of Ice Refrigerator Manufacturers, elected at the group's annual meeting in Chicago, are: president, J. H. Glanzer, The Coolerator Co.; vice president, F. J. Bommer, Jr., Sanitary Refrigerator Co.; secretary and treasurer, E. G. Vail.

RETURN OF CYLINDERS IS KEY TO '47 FREON SUPPLY, RHODES SAYS

Editor:

It would be helpful to the refrigeration industry at large if you would give publicity to the following facts.

During the months of January to May, inclusive, of 1946 Kinetic Chemicals met all demands for Freon-12 in cylinders by shipments from stocks accumulated during the fall of 1945. In the same period (January to May) there were not enough empty cylinders (145-pound, 25-pound, and 10-pound) returned to maintain production at the level of shipments and the plants of Kinetic Chemicals were forced to operate at a reduced production level. In June cylinders were returned in volume and a full production level was achieved which is being maintained through the month of November.

The rate of return of empty cylinders has for the last four weeks been falling off week by week and if this continues, then the plants must again be returned to a reduced production level.

It was hoped that this condition could be averted through the receipt of new containers but the manufacturers who are contracted with us for containers are behind on their deliveries and there is only one solution to the problem.

If every segment of the refrigeration industry will search for empty containers and return them now, a shortage such as occurred in June to September, inclusive, of 1946 can be prevented. We only need 12 per cent per month of the cylinders that are in the field to keep Freon-12 moving in great volume into distribution channels. Even though we are in a period

when Freon-12 is evidently being accumulated, it ought to be possible to return 36 per cent of the cylinders in the field during the next three months, and if this could happen through the kind cooperation of the industry, there will be no shortage in the year 1947.

It is difficult for the industry to understand our plight. First it is a shortage of containers, then we have enough containers but have lost production, then comes the fall of the year when the shortage of Freon-12 is over but the shortage of containers is again becoming a factor. So the whole problem boils down to having containers at the right time in order to maintain production and avert the summer shortage of Freon-12.

Kinetic has orders outstanding for new 145-pound cylinders equivalent to 35 per cent of those now in use but, unfortunately, deliveries are very slow and extend over the next eight months.

Many of those who use Freon-12 have been quite patient with us; others have voiced their criticisms in no uncertain terms. We are dependent on others in order to do a good job but are leaving no stone unturned to do the same kind of a job that we have done quite tranquilly during the years prior to the war.

We again reiterate that if all those who have been patient and all those who have been critical start on a hunt for empty containers now and speed their return to our works, there will be enough Freon-12 for everybody in the summer of 1947.

W. W. Rhodes,
Sales director,
Kinetic Chemicals, Inc.

DEALER MOVES

Quarles Refrigeration Co. of Savannah, Ga. has moved to a new location at 310 W. Bay St. Freezers and lockers are on display.

NEW SALES MANAGER

W. A. Balkcum has been appointed sales manager of Richmond Home Appliance & Refrigeration Co., Augusta, Ga.

"RECORD" DEFROST PATENT HELD VALID

Validity of water defrost Patent No. 2,219,393 granted Refrigeration Engineering, Inc. of Los Angeles has been upheld by Judge Pierson M. Hall in a suit instituted in U. S. District Court for the Southern District of California by York Corp. in an effort to invalidate the patent.

In handing down his decision, Judge Hall ruled that York Corp. had infringed the "Record" patent.

The system of water defrosting low temperature coils was first introduced by Refrigeration Engineering, Inc. in 1937. The patent was granted on this development in October, 1940.

The system is now extensively used in conjunction with low temperature installations for such applications as locker storage plants and ice cream plants. Refrigeration Engineering, Inc. has licensed several leading coil manufacturers under this water defrost patent.

SHIPMENTS RISE 7% IN SEPT.

Shipments of household mechanical refrigerators in September rose to 233,000 units, a gain of 7 per cent over those for August, which totaled 218,000 units, Civilian Production Administration figures show. The month's shipments, however, still were some 25 per cent below the 1940-41 average of 309,000 units. Supplies of steel and component parts continue to be insufficient to meet the demands of the industry, CPA reports.

LOUIS KAHN RECEIVES ASA CITATION

The American Standards Association recently presented a certificate to Louis Kahn, assistant chief engineer of Aerovox Corp., in appreciation of his work in developing standards for Army and Navy equipment and procedure.



Tony George, president of Atlantic Lobster House Co., Boston, places a lobster in a specially designed refrigerated container which will keep the crustaceans alive while being shipped to any part of the country. The container was designed by George B. Wagner, refrigeration engineer, in conjunction with Mr. George.

LIVE LOBSTERS RIDE IN COOLED CASE

An expandable refrigerated container—produced during the war for the shipment of all types of perishables—now is being reconverted to its original intended use as a means of transporting live lobsters from the seacoast to interior markets.

Behind this seemingly simple device lie 10 years and \$67,000 spent in research and experimenta-

tion by two men, George B. Wagner and Anthony George, a refrigeration engineer and a lobster merchant, respectively.

This container, claimed to be the answer to the problems of not only the lobster shipper but also of the air freight companies faced with the need of shipping perishable commodities, is made of vulcanized fiber with an insulated aluminum lining.

The cooling unit inside the container is made of

magnesium and is operated by the gases which emanate from the dry ice. It can be set to operate from 24 hours to 12 days continuously at temperatures above or below freezing.

The container holds 90 pounds of live lobsters, and the weight of the container and product does not exceed 125 pounds. When it arrives at its destination, the container is 16 pounds lighter due to the amount of dry ice that dissipates in transit.

The gas in the container is approximately at -112° , and tests reveal that it will maintain sub-zero temperatures even after it has remained under a shower drenched with 120° water for 48 hours.

The container is economically constructed so that it can be disposed when it arrives at its destination as the cost of returning it would exceed the cost of a new container.

G-E BUYS FT. WAYNE SMALL MOTOR PLANT

Fractional-horsepower motor production facilities of General Electric Co. have been increased with the purchase from Reconstruction Finance Corp. of the big Ft. Wayne, Ind., plant where the company manufactured turbo-superchargers during the war. G-E paid \$5,000,000 for the plant, and it is expected that more than 3,000 persons will be employed at this location as soon as installation of production lines is completed.

MARKETING SERVICE SET FOR INVENTORS

A marketing service for new inventions has been announced by the firm of National Merchandisers, of which E. Millard Smith is executive director.

"Purpose of the new division," Mr. Smith says, "will be to help the small or average inventor at every step, from the birth of his idea until the invention has been properly developed for manufacturing operations, or is on the market as a finished device or article." Much of the firm's activity will be centered around engineering analyses, market surveys and invention sales.

NEXT REWA MEETING MARCH 20-22

It was announced during the All-Industry Refrigeration and Air Conditioning Exposition that the spring meeting of Refrigeration Equipment Manufacturers Association would be held March 20 to 22, 1947, in Chicago.

SCHELM BROS. NAMES EXPORT AGENCY

Schelm Brothers, Inc., East Peoria, Ill., has announced the appointment of Gordon Fennell Co., Cedar Rapids, Iowa, as sole export sales agent for "Polar-Freezer" farm and home freezers. C. L. Fontana, general manager of Fennell's industrial and appliance division, will direct Polar-Freezer export sales.

SHIRTSLEEVES WERE THE ORDER OF THE DAY AS EXECS HELPED WITH SHOW BOOTHS



(Left) H. Schmidt, Cecil Boling, T. K. Campbell, and Joe Corbin, all of The Heat-X-Changer Co., unpack pieces of equipment as they prepare to set up their booth. (Center) S. A. Durbin, General Electric Co.,



Kansas City, Mo.; S. K. Culver, S. K. Culver Co., Chicago; and R. C. Lindblom and G. E. Simmons, both of G-E, Bloomfield, put the finishing touches on the display of G-E's commercial refrigeration equipment. (Right)



Photos by Irving Alter, Harry Alter Co. With their booth all completed, Edward Mack and Martin Cahenzli of Wabash Mfg. Co. pause to chat with A. J. Kucera of Liquid Carbonic Corp., Chicago manufacturer of soda fountain equipment.

REDMOND OFFERS STYLING SERVICE

An innovation among electric motor manufacturers is the new product styling service offered by Redmond Co. without cost to users of Redmond "Micromotors."

Recognizing that attractive styling is essential for effective merchandising of products powered by Redmond Micromotors, the company has retained the services of a styling organization, Bruce Kamp Associates, with offices in Philadelphia and New York. Advanced styling is now available to every Redmond customer. The service includes product design, styling, materials and packaging.

UNIVERSAL COOLER HONORS 15-YEAR MEN

T. S. Pendergast, general sales manager, and ten other employees of Universal Cooler Division, International Detrola Corp., have been honored by the company with presentation of special diamond filled keys indicating 15 or more years of service.

In addition to Mr. Pendergast those honored were George Barrows, Art Bryant, A. E. "Bill" Cadwell, Forest Flockencier, Sr., Bert Grey, Walter LaRue, Archie Maxwell, Jack Moran, Walter Sobas and Barney Thompson.

Two 10-year men were awarded keys of a slightly different design and Benrus wrist watches, while 5-year keys were presented to 139 employees.

QUESTION & ANSWER

"Keep demand ahead of supply"—that's the \$64 million answer to the \$64 question, "When will production catch up with supply?" At least this was the opinion voiced by Robert M. Oliver, vice president and general manager of Proctor Electric Co. when he addressed the San Francisco Electric Club. The greatest danger confronting the appliance industry, he pointed out, is the failure of retailers to follow up the promotional efforts of manufacturers.

COMMERCIAL DEALERS FORM NEW GROUP

Leading commercial refrigerator dealers of the Greater St. Louis area have established the Commercial Refrigeration Dealers Association of Illinois and Missouri.

Officers elected to head the new association are: Raymond Newcum, Kirksville, Mo., president; William R. Champion, Decatur, Ill., vice president; and J. H. Fischer, Poplar Bluff, Mo., treasurer. Mr. Newcum will also act as secretary of the group. Ray Pennington, of St. Louis, was appointed membership chairman.

In addition to the officers, membership includes Robert Young, Cape Girardeau, Mo., E. J. Eaton, Carbondale, Ill., John M. Angle, Decatur, Ill., Gene Schneider, Jefferson City, Mo., George Loutkaw, West Frankfort, Ill., and George Welch, Cape Girardeau.

NEW WHOLESALER OPENS IN MINN.

Tempeon, Inc. has been formed in Minneapolis to serve as a wholesaler of refrigeration parts, equipment, and supplies throughout Minnesota, North Dakota, Montana, and parts of South Dakota and Wisconsin.

While the company itself is new, all of the men associated with it have been connected with the refrigeration industry for many years.

Officers of the company are: John Wheeler, president; Walter H. Anderson, secretary; Eugene Coulter, vice president. All three are war veterans.

WIS. DISTRIBUTOR ISSUES STOCK

In order to meet expansion demands, stockholders of Mater Refrigeration Sales & Service Co., Milwaukee firm serving as exclusive national sales agents for Masterfreeze home freezers, have voted to create 1500 additional shares of n.p.v. stock, making a total common stock authorization of 2000 shares. Extensive remodeling plans also were announced by E. F. Anderson, president of the firm.

LIBBY TRIES FROZEN FOOD MARKETING

Libby, McNeill & Libby will conduct an experimental marketing test on a few frozen food items in Milwaukee, reports C. S. Bridges, vice president in charge of sales. Mr. Bridges emphasizes that the study is strictly an experiment.

CORPORATE SETUP CHANGED BY JOLIET

Joliet Chemicals, Ltd., Joliet, Ill., has been purchased by Kenneth F. Nash and will be combined with affiliated chemical manufacturing facilities into a new corporation to be known as Joliet Chemicals, Inc.

Mr. Nash, formerly managing partner of Joliet Chemicals, Ltd., will act as president of the new company, and L. T. Hartlove, formerly of the engineering staff of Davison Chemical Co., will act as vice president in charge of production.

The company manufactures inorganic silicates, including silica gels, synthetic zeolites and related products.

NEW ASRE SECTION FORMED IN TEXAS

Formation of a Dallas-Ft. Worth section of the American Society of Refrigerating Engineers has been announced by the organization.

Principal speaker of the group's first formal meeting was Galen McKinney, vice president and general sales manager of the Waples-Platter Co. of Ft. Worth and Dallas, who discussed "The Growth of the Frozen Foods Business and Methods of Packaging and Distribution."

Officers of the new section are: Hugh S. Martin, chairman; Ray F. Polley, 1st vice chairman; Frank M. Angus, 2nd vice chairman; Louis M. Snell, secretary and treasurer.

THEY CAME FROM SOUTH OF THE BORDER—AND NORTH TOO—TO SEE THE SHOW



(Left) Horatio Gil and Gabriel Gil of Atzacotalco D. F., Mexico, pause in a hotel corridor with Dario Vasquez of San Juan, Puerto Rico. (Center) William Hintz of Massillon, Ohio, and Jose L. Trevino of Monterrey N. L., Mexico, display a laudable



Photos by Irving Alter, Harry Alter Co. spirit of international goodwill. (Right) Neson Cooper of du Pont lunches with Canadians A. E. Doan, Railway & Engineering Specialties Ltd., Toronto, Ont.; L. C. Batho, Manning Equipment Co., Halifax, Nova Scotia; Alex Dawson, Refrigeration Supplies



Photo by Austin Jones, Kerotest Co., Ltd., London, Ont.; Alec Baillie, Railway & Engineering Specialties Ltd., Montreal, Quebec; and J. D. Ross, Railway & Engineering Specialties Ltd., Montreal, Quebec. Mr. Ross heads this refrigeration parts and supplies wholesaling firm.

HOME FREEZER SALES CHECKED BY G-E

In a test to determine how big the market for home freezers actually is and what the best methods of promoting their sales are, the General Electric Company and one of its small-town dealers teamed up recently to sell 76 new 4 cu. ft. G-E freezers in seven days.

According to M. J. Young, who is in charge of freezer sales for G-E "we estimate that, on the basis of these results, the immediate market for home freezers is 5 per cent of the nation's electrified homes. More than 1 per cent of the electrified homes in the test area were sold during the one-week trial period."

"We are also led to the conclusion that all the sales helps that have been used in the promotion of more familiar appliances are necessary to sell home freezers in such volume," he said.

The locality selected for the test is in Florida, where temperature and humidity average high and where there is less than normal national demand for freezers. The town has a population of about 22,000 per-

sons, and a trading area of 55,000 persons. The nearest city is about 60 miles away. There are about 6,300 residential electric meters in the area. Effective buying income is slightly over \$30,000,000 and per capita income around \$1,400.

PERMUTIT ACQUIRES SIMPLEX VALVE

The Permutit Co., manufacturers of water conditioning equipment, industrial ion exchangers, and power plant specialties, has acquired the Simplex Valve & Meter Co. of Philadelphia, according to an announcement by H. W. Foulds, Permutit president. Mr. Foulds succeeds W. H. Roth as president of the newly-acquired subsidiary, while Mr. Roth becomes the Simplex board chairman.

Mr. Foulds stated that the Simplex company will continue to operate under its own name.

FRUEHAUF CONDUCTS TRAIL-AIRE SCHOOLS

A comprehensive course of instruction in the operation and maintenance of an

air conditioning unit for truck-trailers is being given to Fruehauf salesmen and service men throughout the country. A Fruehauf refrigerator van, equipped with a "Trail-Aire" conditioner, is used as a traveling school-room.

The Trail-Aire conditioner is a dual-purpose unit that may be used either for cooling or heating the trailer interior. Built by Advance Manufacturing, Inc., it is sold exclusively by Fruehauf for installation in insulated trailers.

Instruction is under the guidance of Jack Tyler, service engineer of Advance, assisted by Fruehauf field service representatives. Classes in key cities are conducted for five days, and service men attending from outside branches are holding similar schools for salesmen and fellow service men when they return home.

In addition, Advance has appointed authorized representatives in major cities to handle specialized refrigeration servicing.

AD EXEC OPENS NEW APPLIANCE STORE

A new "postwar model" home appliance showplace has been opened by H. W. Newell, partner and executive vice president of Geyer, Cornell & Newell, Inc., in Greenwich, Connecticut.

Although the new business is owned by Mr. Newell and has no connection with his advertising agency, it is expected to serve as a model retail selling laboratory to develop practical experience to aid the agency in counselling clients. Mr. Newell said in announcing the opening. The agency handles the advertising for Nash-Kelvinator, Eureka Division of Eureka Williams Corporation and Electronic Blanket Division of the Simmons Company in the home appliance field at present.

Operating as the Greenwich Home Appliance Co., the appliance business is managed by Edwin T. Wolf, formerly associated with the Westchester Power & Light Company.

BOOTHS WERE BUSY PLACES AT THE FOURTH ALL-INDUSTRY SHOW



(Left) R. W. Messner, Refrigeration Equipment Co., Madison, Wis.; A. W. Monroe, Dole Refrigerating Co., Chicago; and E. D. Masters, Refrigeration Equipment Co., talk it over at the left side of the Dole booth



as H. E. Cay, O. L. Rose, and Ernest Wilbur, all of Dole, form a matching group on the right. (Center) Among this crowd in the Superior booth are I. A. Wilson and K. M. Newcum of Superior; Frank and John



Photos by Irving Alter, Harry Alter Co. Sanders of J. Sanders, Inc., Nashville, Tenn.; Harry Faulk of Alco Refrigeration Co., Cleveland; and C. F. Maurey of G-E. (Right) Willis Stafford and Felix Wierman of Chicago Seal Co. smilingly answer questions.



(Left) Maxine Mayer, Cleveland; Robert L. Honey, American Refrigerator & Machine, Inc.; and A. W. Monroe, Dole Refrigerating Co., pose for their picture in the American

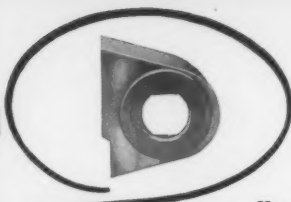
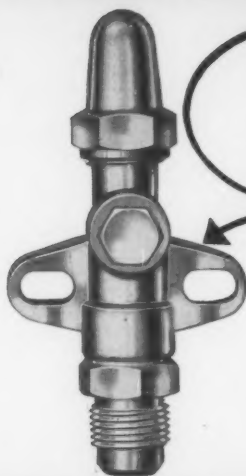


booth. (Center) In the Lynch booth are K. S. Borton, Borton Refrigeration Service, N. Liberty, Ind.; Rex Aumand, Lynch; A. E. Borton, and B. J. Scholl, Lynch. (Right)



Photos by Austin Jones, Kerotest Leonard Wright, Jr. and Arley Baker, both of Alco, flank John Graves, Graves Refrigeration Co., Miami, as they explain to him some features of the Alco display.

Another SUPERIOR FIRST



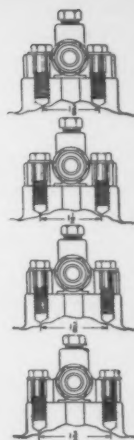
The "UNI-HOLE" Flanged Compressor Valve

... Has Universal bolt holes for use with 5/16" bolts or cap screws, to facilitate installation on compressor flanges having 1-3/8", 1-1/2", 1-5/8", or 1-3/4" centers.

Simply install the "Uni-Hole" Valve in its proper position ... add the two heavy washers (supplied with each valve) between the flange and bolt, or cap screw head ... then tighten. That's all there is to it!

Ask your Jobber to show you the SUPERIOR "Uni-Hole" Flanged Compressor Valve. You're sure to like it! It's a natural ... and besides saving you installation time, it reduces your stocking problem. *One size does the work of four!*

The diagrams at the right tell the story.

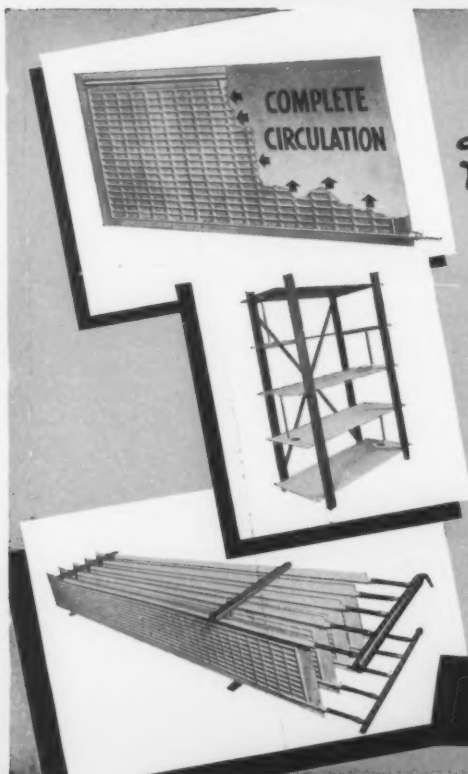


SUPERIOR

VALVE & FITTINGS COMPANY

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OFFICES IN PRINCIPAL CITIES • STOCKS: CHICAGO (6) • LOS ANGELES (15) • JOBBERS EVERYWHERE



For Complete Surface Freezing

HUBBELL-YODER REFRIGERATION PLATES

—and we mean "COMPLETE SURFACE."

Take a 19" x 108" Hubbell-Yoder Plate for example. That's 2052 square inches of plate area. And every single square inch is actual prime heat pickup surface. You see the interior of the plate is a network of ducts through which the refrigerant circulates, spreading out in all directions so as to form a web of refrigerating element. That's "Complete Surface Freezing."

If you make, sell or use low temperature equipment such as freezer cabinets, locker plant plate banks, sharp freeze shelf stacks, etc., it will certainly pay you to get details on Hubbell-Yoder Plates. They'll step up operating efficiency and reduce operating costs. As the old darkey said, "Dat am no prophecy: dat am a fact." Write, wire or phone.



International Sales Agents
ENGINEERING SERVICE INC.

1311 WEST 80TH STREET

CLEVELAND 2, OHIO

CONTRACTOR ACTIVITIES . . .

Continued from page 37

to represent their interests in all such matters.

He pointed out efforts made to get a fair share of small motors and said that one possible source of leakage was stopped when they were put under export license control.

Unfair trade practices is one of the most important problems confronting refrigeration contractors, Mr. Farr

said, and is being thoroughly explored with particular reference to practices of some of the dairies, frozen food concerns, and manufacturers of ice cream and beverages.

NARC has accumulated quite a file on the subject, including complaints; and these have been turned over to the Federal Trade Commission, at their request, to supplement the formal complaint made to the Commission by one of NARC's affiliated associations, the Refrigeration Contractors Association of Northern California, San Francisco. It is important

that contractors send in complete data about complaints of such unfair trade practices in their area, Mr. Farr emphasized, so NARC may be kept fully informed. Upon request a report form will be sent.

There appear to be no statistics on the business of refrigeration contracting. Such information is valuable as a guide to intelligent, constructive planning and corrective efforts. A sheet has been sent to all members, asking for information on sales volume, wage rates, etc. Later, the summarized totals will be sent to members so they can compare these with their own figures.

THERMOBANK



Means:

**LOWER TEMPERATURES
HIGHER EFFICIENCY
HIGHER HUMIDITY
ATTENTION-FREE OPERATION**

With the Thermobank, temperatures of 32°F. to -40°F. and below can be maintained as easily and with the same freedom from frost as temperatures of 40°F. in a conventional system. Operating with practically frost-free coils, Thermobank maintains the desired low temperatures with higher back pressures, less temperature differential between air and coils; and consequently higher humidity, less drying and more efficient compressor operation.

Essentially, the Thermobank System of Automatic Defrosting consists of a forced convection cooling unit, automatic time controls and a heat reservoir. A portion of the heat extracted during the refrigeration cycle is banked in the reservoir from which it is released to the refrigerant during the defrost cycle.

Send for Booklet 16-R1 explaining Thermobank System and including useful low temperature information and time-saving rapid selection tables.

Group Insurance Data

A file on group insurance has been established, and the information is available to local groups to which this applies, because the laws of the states vary on this subject.

Some information has been sent out on apprentice training, and the association is prepared to assist local groups or members on this matter.

Refrigeration contractors, Mr. Farr pointed out, now have their own trade association, whose principal object is to promote, protect and stabilize that business. An important and valuable file of information on this business is being accumulated, and the association is prepared to act aggressively and thoroughly on any matters of interest and importance to this phase of the refrigeration industry. The opportunities are tremendous, but for satisfactory progress, the cooperation and support of refrigeration contractors everywhere must be had.

New Members Welcome

On finances, treasurer A. M. Palen of St. Paul said NARC had stayed well within its budget; and he recommended adoption of the proposed constitutional amendment to increase the per capita annual dues of affiliated associations, in order to obtain more operating revenue, needed to function aggressively and continuously on behalf of the membership. He stated further that the cooperation and support of many more refrigeration contractors would be desirable in carrying out the 1947 program.

Opening the speaking program was Raymond J. Shock, executive secretary of the Refrigeration Contractors

KRAMER TRENTON CO.

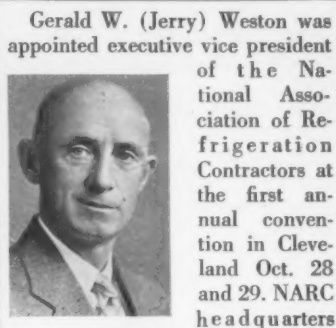
HEAT TRANSFER PRODUCTS

TRENTON 5 • NEW JERSEY



Association of Detroit. His subject, "Is Licensing the Answer?", was based upon an investigation made by the Detroit group before a licensing ordinance was prepared and adopted in the Detroit city code.

There are both advantages and disadvantages in a licensing regulation, according to Mr. Shock, but, in his opinion, the advantages considerably outweigh the disadvantages. The



are in Cleveland.

Mr. Weston managed the Electric Association of Kansas City, Mo., for 19 years. From there he went to Washington, D. C., with the National Electrical Contractors Association. After one year, he engaged in war service work for two years, as chief of the electrical and mechanical repair section of the WPB. This connection kept him in close contact with refrigeration contractors on problems dealing with Freon, small motors, labor, equipment and parts.

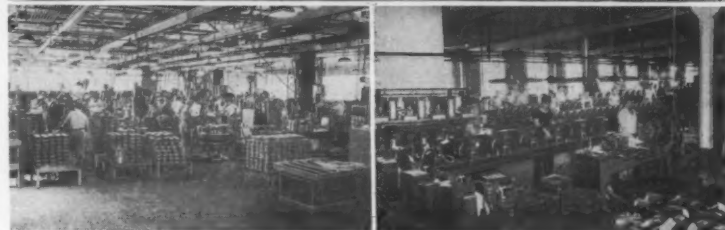
He is a graduate of Purdue university and a past-president of the International Association of Electrical Leagues.

major disadvantage, of course, is that it means a form of government control with possible political aspects and questionable enforcement.

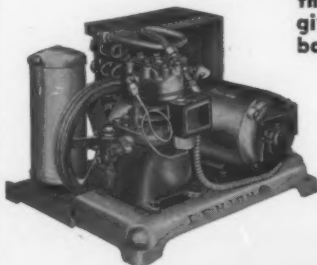
In pointing out the advantages, Mr. Shock said that the experience of years has resulted in city licensing regulations in a great many fields, such as barbers, plumbers, beauty shops, restaurants, electrical contractors—all licensed solely in the interest of protecting the public health and safety. There are no other reasons to justify a licensing regulation, he said, because the object in any particular field is to assure that the work done, or services performed, will be completed by firms that have qualified as

**"In Back of
Every Good Product
Is A Good
Organization"**

says the LEHIGH TEAM



- Lehigh BLU-COLD benefits from—and in turn passes on to you—sound basic engineering, scientific foundry control, precision machinery and assembly, critical testing. BLU-COLD Units in the field are proving their merit—give ample evidence of their good background.



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**HEAVY DUTY
CONDENSING UNITS**

Complete Line to include $\frac{1}{4}$ to 5 H.P.



Lehigh Mfg. Co., Inc.
PLANT: LANCASTER, PA.

competent and responsible by examination, bonding, or whatever requirements are provided for in the licensing regulation. With the latter properly enforced, this should mean less trouble to the public and purchasers from incompetent, irresponsible firms or service men. Licensing, he said, is a deterrent to these kinds of operators. And it is these types that can bring public distrust on an entire industry.

Obviously, Mr. Shock emphasized, licensing will very likely not work with complete satisfaction; but, where

properly handled, it should result in a vastly improved situation, as it has done in Detroit.

The next speaker was Ed Wright of Youngstown, Ohio, recording secretary of NARC, discussing "What NARC Means to Refrigeration Contractors." He particularly emphasized the necessity of refrigeration contractors getting together, working together and staying together, in order to protect the investment in their business. He stressed the importance of cooperative action to obtain better

fair trade practices, better business practices, better labor relations, better public relations and better government relations.

The refrigeration contractor, he said, represents the final link between producer and consumer; consequently, he must take his proper place at the council table with the manufacturer, wholesaler, labor and government. Now, for the first time, he stated, the refrigeration contractor has an organized, national voice to express and safeguard his interests.

Fair trade practices, sound labor relations, proper estimating, assistance to manufacturers in setting ter-



Use Asphalt COLD—Better 8 Ways

Now you can spray, brush, squeegee or trowel COLD adhesive for insulation blocks and vapor-seals—and get a better job quicker, easier, at less labor cost.

*Laykold** INSULATION ADHESIVE

offers superior advantages—to both owners and contractors.

1. Will not burn—contains no inflammables.
2. No fire hazard to job—no burns for men.
3. No fumes to contaminate stored products.
4. Costs less to apply—faster, cleaner.
5. Sets tacky and ductile—not brittle.
6. Adheres to any type of dry surface; combined with aluminous cement, it adheres to damp walls and floors.
7. Self-heals nails, skewers, seams, cracks.
8. No cracks from vibration or stresses.

LAYKOLD WEATHERCOAT, troweled on, seals insulation permanently moisture-proof, indoors or outdoors. LAYKOLD MASTIC covers any type of sub-floor—is impervious, easy-to-clean, enduring, waterproof and noiseless—the ideal refrigeration floor.

All LAYKOLD PRODUCTS are used at atmospheric temperatures.

Specifications and prices on request.

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TUCSON, ARIZ. • LOS ANGELES, CAL. • OAKLAND, CAL. • SEATTLE, WASH. • SAN JUAN, PORTO RICO



"I don't know about your future—but I'm going to get my new freezer next week!"

ritorial or area sales quotas, reasonable guarantees, and protection to the public and users by licensing, are some of the things from which refrigeration contractors can benefit by working together, he said.

On labor relations, he pointed out that for those who employed union labor, there should be a refrigeration union resulting from recognition of refrigeration contracting as a separate craft. Steamfitters, plumbers and others do not have the "know-how" on refrigeration, he emphasized.

The second day of the meeting opened with a paper on "Unfair Trade Practices," prepared by Z. E. Jones of San Francisco, executive secretary, Refrigeration Contractors Association of Northern California, and read in his absence by Lee Shirar of the same group.

The ensuing years will see more utilization of existing Federal regulations to safeguard business from unfair practices that cannot be held

under control by voluntary means, Mr. Jones declared. He called attention to the Federal Trade Commission's unfair trade practice rules, which have been adopted with suitable modifications in many industries; and expressed the hope that the refrigeration industry would adopt such a program. Only in this way, he felt, could certain practices of some of the dairy, beverage and ice cream companies be corrected.

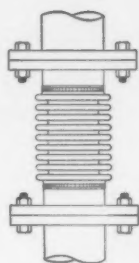
He mentioned the Fair Trade Acts in existence in most states whereby a manufacturer of a trade-marked product may lawfully enter into contracts to maintain and protect the resale price of his product. In his opinion, contractors should not hesitate to use these and other laws established to preserve and regulate competition and fair trade practices in industry.

Templin Cites Value Of Local Groups

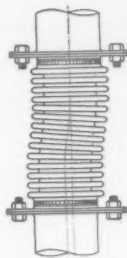
Neal S. Templin, executive-secretary, Refrigeration Contractors Association of Los Angeles, discussing "Why Get Together Locally?" and "How to Operate a Local Association," emphasized that action taken together is a great deal more productive than taken separately.

When licensing codes are in force, the government authorities look to the association for their aid and assistance in interpreting the code, he said. This performs a dual function; it builds a better understanding between the government agency and the contractor and a better understanding of the operation of the law. Local associations make for better contacts and friendships with competitors, discouraging customer practices of chiseling. A local association is very helpful in labor negotiations. Association members are instructed in business matters peculiar to the industry, such as tax matters, proper books and records, and good business practices. In the discussion of good business practices, the inclusion into costs of items such as business expense, over-head, labor, is pointed out. Usually monetary savings, through group life and accident insurance and group workmen's compensation and public liability insurance, may be effected. Local associations can better handle consumer complaints, public relations and apprentice training.

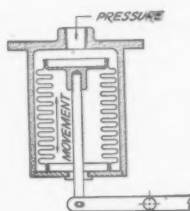
Advising on "How to Operate a



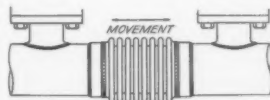
Expansion Joint



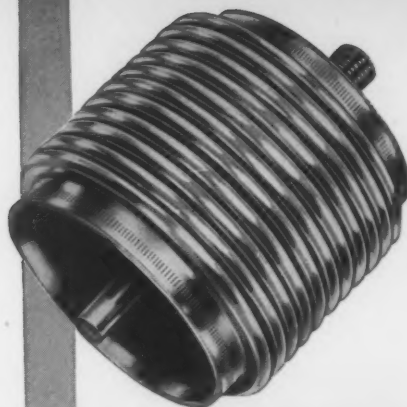
MOVEMENT
Flexible Connector



PRESSURE
MOVEMENT
Pressure Motor



MOVEMENT
Compensator for Headers



C. M. H. STAINLESS STEEL BELLOWS

Assure
long life
low maintenance

The outstanding features of corrosion-resistant 18-8 Austenitic *Stainless Steel* enable wider application of C. M. H. Bellows. This is because *stainless steel* has the necessary characteristics to assure long life and low maintenance cost.

C. M. H. Bellows, for example, with a working range of sub-zero to a scaling-point of 1800° F. are not bothered by temperatures . . . hot or cold. In addition, they have multiple-ply construction for greater strength; ferrous fittings, attached by Circular Seam Welding to insure leakproof joints; uni-metal assemblies which avoid troubles often encountered when bi-metal or solder joints are used. These and other features warrant your consideration. Write for Bulletin SS B-46.

Flexible Metal Hose for Every Industrial Use



CHICAGO METAL HOSE CORPORATION
MAYWOOD, ILLINOIS

Plants: Maywood and Elgin, Ill.



Local Association," Mr. Templin said: "Don't try to operate on a shoe-string. Spend your money knowingly by setting up a budget. Get a paid manager or executive-secretary, who can take care of all the necessary details connected with the functioning of the association. When electing a board of directors, make sure that the men you choose are willing and able to spend the time necessary to direct the organization. Make sure that capable committees are appointed. Make sure that you have a technical committee,

and a legislative committee, and keep all your committees small—three to six at the most. Have regular meetings at regularly stated times. Change over by having a dinner-meeting sometimes, with outside speakers, motion pictures of refrigeration or of general interest. Maintain a central office where members may call to have their questions answered."

The trade relations committee, under chairman F. J. Zoppel, reported on the results of a meeting with the trade relations committee of Refrigeration Equipment Wholesalers Association.

In attendance for NARC were President Warren Farr, Mr. Zoppel, Theodore Reina of New York City, Ray Shock of Detroit and W. W. Allison of Los Angeles. The REWA committee consisted of J. H. Downs of Cleveland, Irving Fajans of New York, J. P. Glass of Chicago, and L. L. Branson of San Francisco, chairman of the committee.

Trade Relations Report

NARC recommended to REWA (1) that the word "service man" in their "Statement of Policy" should be changed to "contractor" as defined by NARC; (2) that the statement, "Other recognized trade outlets" be clearly defined and limiting in its interpretation so that such outlets shall be on a refrigeration contractor level; (3) that REWA members should not do trade shop repair work; (4) that members of REWA distribute list price catalogs only, and with trade discount sheets distributed only to carefully screened trade mailing lists; (5) that the members of REWA display a "Wholesale Only" sign; and (6) that prompt attention be given to correspondence from refrigeration contractors. The NARC committee left with a definite impression that REWA is motivated by an earnest desire for full cooperation with NARC, Mr. Zoppel said.

Code Data is Sought

The legislative committee, through its chairman, Nathan Edelstein, reported that 132 selected cities had been asked for information on refrigeration codes and licensing provisions, and returns indicated only a few cities had either. This indicated an opportunity for constructive action by NARC. It was recommended that a suggested licensing code be prepared to satisfy requests for such, with the technical portion based upon the refrigeration code of the American Standards Association and the American Society of Refrigerating Engineers. A file of information has been collected and the NARC office is in a position to assist communities or contractors interested in codes and licensing.

The complaint to the Federal Trade Commission by the Refrigeration Contractors Association of Northern California on certain practices of dairy and ice cream companies was dis-



THAWZONE

The Pioneer Liquid Dehydrant

HEARTILY ACCLAIMED

By Service Engineers Everywhere!

In these days of equipment shortage and the importance of maintaining continuous operation, THAWZONE has become more in demand than ever before. Here's why and how:

Many jobs are moisture cases that begin to kick-up before there's much moisture in them. Put in THAWZONE and go on to the next job. Nine out of ten of these jobs will be finished with the ONE call. If, occasionally, another "shot" is necessary to take care of unusual moisture, give it. This will be the exception, however.

The action of THAWZONE is positive, because it *destroys moisture and neutralizes acid by chemical action.* If you are not fully aware of what THAWZONE means in time and energy saved, we suggest that you contact your refrigeration equipment wholesaler now!

HIGHSIDE CHEMICALS CO.
195 VERONA AVE. NEWARK 4, N. J.



cussed. Mr. Edelstein stated that the Commission had asked NARC for examples of such practices in other parts of the country, and that NARC had done this.

While recognition of the work of the San Francisco group was given, it was felt that the first step in solving the problem is to set up a code of ethics and business procedure for use between refrigeration contractors and other sections within the industry, and a code between refrigeration contractors and persons outside the industry.

After that program is completed, and voluntary compliance with these codes shall not be forthcoming if unfair competition and unfair trade practices continue to exist, then the NARC would endeavor to have such regulations enforced by the responsible government bodies.

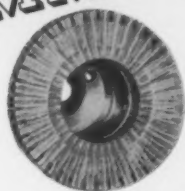
Court Test Planned

Ever since the enactment of the Fair Labor Standards Act (Wages and Hours), there has been unlimited discussion as to whether the refrigeration business is subject to that law. Household refrigeration, whether it be interstate or intrastate, is exempt. The administrator of the Act holds that commercial refrigeration, no matter under what circumstances operated, is considered interstate commerce and subject to the Act. Since no judicial body has ever decided one way or the other with respect to commercial refrigeration, it was recommended by the legislative committee (and approved) that NARC start a test case and litigate the question in a Federal court to settle this matter one way or another.

W. L. Drake, membership com-



Let's Talk About COMMUTATORS!



1 Wagner Knows Commutators

Since Wagner introduced the first commercially successful single-phase motor in 1896, the company has manufactured millions of commutators for repulsion-start induction brush lifting motors—far more than any other manufacturer.

2 Wagner Builds Commutators That Last

An almost unlimited number of full-load starts is built into every Wagner commutator. Liberal design provides extra strength, permits refacing several times, if necessary, with safety. Replacement commutators are built to operate at any speed up to and including 3600 RPM without danger of "explosion".

3 Wagner Builds Commutators That Fit

Genuine Wagner replacement commutators are built as an original motor part—your assurance of an accurate all-round fit for correct operation. Segments are accurately milled to facilitate connection of rotor leads.

4 Avail Yourself of Wagner's Experience

Wagner replacement commutators, like all genuine Wagner parts, bring you the benefit of the latest improvements in materials, design and construction.

Commutators Are Available For Immediate Delivery

Wagner motors are world-famous for dependable service. When repairing a Wagner motor, be sure to use genuine Wagner motor parts, designed and built to renew that dependability. Get them from one of the 325 authorized service stations displaying this sign.



Every motor repair shop needs this catalog. It helps you determine the catalog number and price of Wagner fast-moving motor parts. Write for Catalog MU-40 today.

M46-25



Wagner Electric Corporation

EST. **WE** 1891

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mittee chairman, reported NARC now has nearly 800 members in over 100 cities in 35 states, the District of Columbia, and the Panama Canal Zone. Seventeen local associations are affiliated with NARC; and in many other cities local groups are organizing. NARC, he said, will conduct a membership drive in the 92 cities having over 100,000 population; and he called on every member to get at least one new member.

E. S. Wright, chairman of the Publicity Committee, gave data on the amounts and kinds of publicity that

had appeared on NARC and its affiliated associations.

Ray Kromer of Aberdeen, S. D., chairman of the committee on labor relations and government surplus, was unable to be present, so his reports were read.

On labor relations, he emphasized the point that NARC is neutral on union vs. no union, but is working for recognition of refrigeration contracting as a separate craft with its own union for employers of union labor. He outlined what had been done on this and recommended no

let-up by NARC to reach the desired goal. NARC's office, he said, has already accumulated considerable information on labor relations and agreements and has helped contractors in a number of cities. In all of this, he emphasized, it is of the utmost importance that refrigeration contractors work together, because if one contractor signs an agreement somewhat unfavorable to employers, that immediately establishes a pattern. Consideration is being given, he pointed out, to a suggested general labor agreement with management protective clauses, leaving the other points for each group to adjust to their own local conditions.

President Farr was presented with two gavels. One was the gavel used by Ray Kromer at NARC's organization meeting. This was presented with a beautifully-decorated parchment scroll by Perry Grocott on behalf of the Mahoning Valley Refrigeration Contractors Association of Youngstown, Ohio.

The other, made from Arizona iron-wood and copper, had a handle patterned after a thermal control bulb. It was made by G. W. Lance, president of the Arizona Refrigeration Association, and presented by Roy Perry, past president of that association.

NEW LOW BRAZING TEMPERATURES and NEW LOW SILVER CONTENTS . . .

are the big features of these new alloys that will put many metal joining jobs on a new low-cost basis. They save time, save heat, save man-hours and reduce alloy expense. Start these savings in your production now . . . LOW TEMPERATURE BRAZING NEWS NO. 36 gives you the facts. Write for a copy—today.

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Agents in Principal Cities

PERISHABLE foods are kept fresh and appetizing all day long in the "store on wheels" operated by Charles S. Heimbach within a radius of 20 to 25 miles of Berwick, Pa. A 1/3 H.P. Airtemp air cooled condensing unit and three cold plates furnish refrigeration for a 5-foot storage and display case in which meats and other perishable food items are kept.

The truck is loaded each night for the following day's run, and the condensing unit, which uses 110 volt, 60 cycle, single phase current, is plugged into the ordinary house circuit. Operating through the night, the unit brings the temperature of the case down to 36 F. After the truck has been on the road from 9 to 12 hours, the temperature is between 40 and 42 F.—a rise of only 4 to 6 degrees.

In addition to fresh meats, refrigeration enables Mr. Heimbach to supply his customers along the route with butter, eggs, milk, cold cuts and other perishable goods. He says it saves him 20% in operating costs over ice, which he formerly used.

The installation was made by Kravitz Refrigeration Sales & Service, Hazleton, Pa.

THE REFRIGERATION INDUSTRY



About People

the country's large appliance manufacturers.

Henry A. Dinegar, longtime sales executive in the refrigeration and air conditioning field, has joined the Eureka division of Eureka Williams Corp. as special assistant to George T. Stevens, vice president and manager. During the war Mr. Dinegar served as director of the durable goods and products division of WPB. He has been associated in various sales capacities with American Steel Export Co., Carrier Corp., and General Electric Co.

O. J. Nussbaum, who during the war acted as chief engineer of Kramer Trenton Co., is again devoting his full time to research and development of new equipment. He is in full charge of the company's laboratory, which has recently been extended to include a fully equipped low temperature testing station. His duties will include supervision of equipment, testing, refrigeration research, and the development and design of new products.

Ward R. Schafer has left his post as vice president in charge of sales for Edison General Electric (Hotpoint) Appliance Co. to become general sales manager of Ideal Industries, Inc., Sycamore, Ill., manufacturer of electrical and mechanical industrial equipment.

Iceberg Refrigerated Locker Systems, Inc. has announced the appointment of **Richard M. Humphrey** as service engineer and **Robert C. Coburn** as sales representative in the company's main office at New York. Mr. Humphrey previously had handled refrigeration installation and service for Kelvinator Sales Corp., Warren-Norge Corp., and Rex Cole, Inc., all of New York.

Charles D. Otterson has been appointed sales manager of Bonney



Otterson has had wide experience in various sales fields.

R. C. Weigel has been named assistant sales manager of the Standard products section of the Du Pont Co.'s ammonia department. **George J. Courtney** has been selected to succeed him as manager of the Philadelphia branch office.

Two new district managers and another addition to the sales staff have been announced by the Refrigerator Division, Whiting Corp. **Fred Whitcomb**, formerly with Motor Products Co., has been appointed Milwaukee district sales manager. **Clare F. Jack**, also formerly with Motor Products Co., is the new Cleveland district sales manager. **Arthur M. Truc**, recently returned from a five-year tour of duty with the Army, has joined the Whiting sales staff and is currently operating out of the Chicago office.

Two personnel changes have been announced by the Air Conditioning Department of General Electric Co. **Clarence O. Nelson** has been named supervisor of the department's development and test laboratories. With the company since 1934, Mr. Nelson most recently had been working on service engineering of gas turbines and installation engineering of steam turbines. **Leonard E. Thompson**

has been appointed manager of the department's renewal parts section. A G-E employee since 1935, his most recent post had been assistant to the department comptroller.

Morris L. Finneburgh has been appointed manager of the northwest region of Liquid Carbonic Corp.'s fountain-cabinet division. He formerly was field promotion manager of the division.

Monitor Equipment Corp. of New York has announced the appointment



of **Howard Traynor** as manager of its service department. Before joining Monitor, Mr. Traynor spent four years with Rex Cole, Inc. as one of this organization's branch service managers. Prior to that, for six years he was warehouse manager for the General Electric refrigeration machine factory.

L. O. Bower, sales manager of Sherer-Gillett Co. for the past two years, has been elected vice president in charge of sales of that organization.

Deepfreeze Division, Motor Products Corp., has announced the appointment of **Sidney Lee Faust** as sales manager for the Kansas City district and **John P. Strange** as sales manager for the Dallas district. A member of the Army Air Forces for nearly five years, Mr. Faust has a 15-year background in refrigeration and appliance sales and service. Mr. Strange, who spent nearly five years in the Army, formerly worked with one of

PRODUCTS PARADE . . .

Continued from page 34

of special design, and is designed so that users' lips do not come in contact with the nozzle. Drain and water pre-cooler are rust proofed.

"American" Introduces Five New Products

American Refrigerator & Machine, Inc., introduced five new products:

three food freezers, a display freezer, and a dry-type bottle cooler.

The food freezers, in capacities of 8, 15 and 22 cu. ft., are designed for both quick-freezing and storage. Smaller unit, for example, has 2½ cu. ft. freezing and 5½ cu. ft. storage space, and the 22 cu. ft. unit has 3¾ cu. ft. freezing and 18¼ storage area.


Display freezer has 15 cu. ft. capacity, and temperatures are adjustable between minus 15 and plus 15 F. Bottle cooler, in brown baked enamel, holds 504 12-oz. bottles.

Superior "Life-Time" Packless Valve

Superior Valve & Fittings Co. introduced a new "Life-Time" diaphragm packless valve. Features include in-line construction, for unrestricted refrigerant flow; controlled travel and controlled seating impression; symmetrical design; rugged, one-piece plated steel lower stem; wrench flats for individually tightening flare connection, eliminating "wrench-ruining" and making installation easier; and novel solder connections which permit soft or silver soldering without removing internal parts.

G-E Introduces New Alarm Thermostat

General Electric Co.'s Apparatus Department introduced its new alarm thermostat (CR1057-W) for protecting frozen food cabinets. Designed for use in a circuit which will give the user a warning of any failure, the alarm is given in adequate time to permit correction of the trouble be-




**6 out of 10
manufacturers of
original equipment
SPECIFY USG**

**Tomorrow's accuracy is
here today in the new U.S.
Supergauge. Get complete
information about this
superb instrument now.**

**UNITED STATES
GAUGE**

U.S. INSTRUMENTS Test the Truth

DIVISION OF AMERICAN MACHINE AND METALS, INC., SELLERSVILLE, PA.
Manufacturers of Pressure, Temperature, Flow and Electrical Measuring Instruments



*..... before it
becomes dangerous!*

VISOLEAK detects even the smallest leaks before they cause damage to expensive refrigeration systems. Years of use prove it safe, economical, easy to use.

NEW CHARGING SET

The VISOLEAK Charging Set was developed to inject VISOLEAK, add refrigerant oil or re-charge sealed units. For use on all types of refrigeration systems without danger of introducing air or foreign matter.

Charging Set—complete with hoses \$7.50
Filler only—without hoses 6.00
See your refrigeration supply jobber or write for complete information.

1701 W. Slauson Ave., Los Angeles 44, Calif.

WESTERN THERMAL EQUIPMENT CO.

1701 WEST SLAUSON, LOS ANGELES 44, CALIF.

THE REFRIGERATION INDUSTRY

fore contents of the box are spoiled.

It incorporates a contact made at the end of two pieces of temperature-sensitive bimetal. This contact is designed to remain closed at low temperatures and to open when the temperature rises. The opening temperature can be set at any desired level.

Walk-In Freezer Shown By West Coast Firm

A walk-in freezer designed especially for farm use and providing 51 cu. ft. of 0°F. storage space was shown for the first time to the Eastern trade by Engineering Associates, Inc. of Seattle, Wash. Cooling is provided by four vacuum plates holding temperatures of -20 F., each of which serves as a storage shelf for food.

Fleetwood Displays New Commercial Line

Fleetwood-Airflow, Inc. introduced at the Show a new line of refriger-

ated display cases, walk-in units, beer pre-coolers and dispensing units. These latter units are patented and may be assembled in sections to meet a wide variety of applications.

Also introduced by the company was Fleetwood flexible tubing, a plastic tubing which is said to be adaptable for use in conveying such liquids as milk, fruit juices, wines, beer and other food products. The tubing comes in either black or clear, and is available in a variety of sizes and wall thicknesses. A full range of fittings also are available.

Rotary Seal Shows Test for Flatness

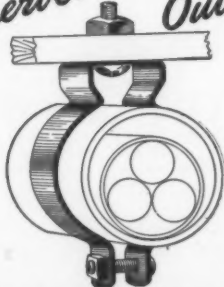
Rotary Seal Co.'s exhibit at the Show centered around a demonstration of accuracy of finishing as shown by an electronic flatness checker, a new device which makes it possible to check the flatness of seal faces to within .000011 inch without the usual laboratory techniques.

Seal faces were checked for the benefit of Show visitors, who display much interest, according to

MINERALLAC

Steel HANGERS, CLIPS, STRAPS

Outserve! *Outlast!*



Minerallac Cable, Conduit and Messenger Hangers are STEEL. Easier, quicker to install; permit speedy, compact wiring; economical. Also in Everdur . . . Porcelain Insulating Bushings available.

Jifty STEEL Clips (Pipe-clamp) require only one screw, nail or bolt; rib-strengthened; for hanging pipe, conduit, BX cable, mounting coils, etc. Millions in use.

Steel Straps for Messenger-cable services on outlet boxes; may be used in conjunction with hangers.

Order from your Electrical Wholesaler. Send for literature.

MINERALLAC ELECTRIC COMPANY
25 North Peoria Street Chicago 7, Illinois

ANNOUNCING stainless steel beer coils in NEW Temprite coolers!!

The FIRST glass of beer is perfectly clear! No waiting for beer stone to form in the coils! No metal contamination! The new Temprite draught beer coolers, now available with *stainless steel beer coils*, give the user greater operating efficiency, greater security! Stainless steel offers high tensile strength and an extremely smooth, clean surface! Patented Temprite control maintains a uniform 40° from the beginning to the end of every keg!



WRITE FOR
COMPLETE
SPECS.



TEMPRITE PRODUCTS CORP.

Originators of Instantaneous



Liquid Cooling Devices

41 PIQUETTE AVENUE

DETROIT 2, MICHIGAN

company officials, inasmuch as this was the first time that a measurement so small was visible to the layman in the industry. Since the heart of a seal is the flatness of its faces, this factor is highly important.

Freon Oil Separators In Acme Product Line

Acme Industries, Inc. introduced at the Show a line of Freon oil separators in six models designed to meet

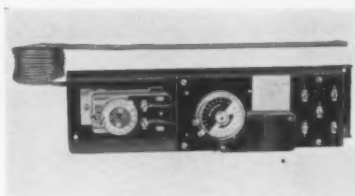
all requirements from $\frac{1}{4}$ hp to 10 hp.

Shell is of seamless steel tubing, with flat bottom to permit mounting on compressor base; cartridges have multiple screens, with inlet and outlet cartridges identical for easier replacement if necessary. Baffle is steel-welded to cover plate, and float valve assembly is rust proofed. Units are available in blue gray to blend with color of most Freon compressor bodies and bases, and all units are approved by Underwriters Laboratories.

White-Rodgers Defrost Control Is Automatic

White-Rodgers Electric Co. introduced its automatic defrost control which provides in one compact unit control of both refrigeration temperature and defrosting cycle.

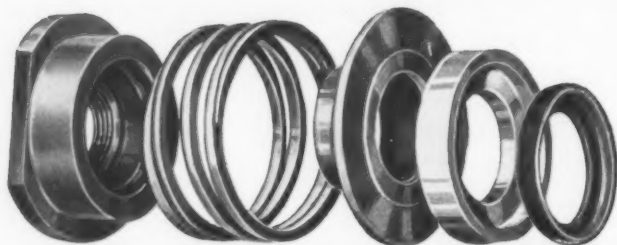
The temperature control has a positive range of -20 to 50° F, and is actuated by hydraulic action provid-



ing ease of adjustment. It has a 7-ft. capillary with special $15\frac{1}{2}$ -in. air-sensitive bulb.

For defrosting purposes the control contains a timer which is a clock with a 24-hour dial operating at 115 volts, 60 cycle a.c. This timer is adjustable from 15 minutes to 5 hours. Pointers on the dial show the length of time that the defrost control is "on" and the circuit is "open."

Again CHICAGO SEAL *Announces* **NEW** **REPLACEMENT SEALS** **NOW FOR SERVEL COMPRESSORS**



FOR BETTER PERFORMANCE USE

**CHICAGO
VALVE PLATES**



**CHICAGO
SEALS**

CHICAGO SEAL CO. 20 N. WACKER DR., CHICAGO 6, ILL.

**TIME-
SAVING!**

QUICKEE

**EASY
TO USE!**

BETTER!

**WATERLESS
HAND
CLEANER**

ECONOMICAL!

REMOVES

**GREASE, GRIME, PAINT,
WITHOUT WATER!**

- ★ GENTLE — not injurious to skin
- ★ KEEPS HANDS SOFT — fortified with Lanolin and Vegetable Oils
- ★ QUICK ACTING — guaranteed satisfaction

NOW in our own building to keep up with ever increasing demand.

**FREE
SAMPLE**

TUDOR CHEMICAL SPECIALTIES, INC.
Dept. R, Tudor Bldg.
229 W. 179th St., New York 53, N. Y.

Send me a Free Sample of Quickee

Name.....

Address.....

City.....

State.....

Silver Solder Rings Shown By Wabash

Wabash Mfg. Co. introduced silver soldering in a form which for the first time makes silver solder literally a packaged item.

All that is necessary to put these rings to use is to break a ring off the notched coil, slip it over the tubing to be soldered, flux the joint, and apply heat. The rings are available for o.d. tube size from 1/4 to 1 inch, and are packaged 50 or 100 rings to a box.

A special silver solder flux also is available in bottle form.

U. S. Air Co. Displays Wide Range of Units

U. S. Air Conditioning Corp.'s display at the Show included store coolers, unit heaters and coolers, heating and cooling coils, blower-filter units, and other equipment it has in its year-around line.

Most of the equipment displayed has been redesigned. The store coolers are available in 3 and 5 ton units, the unit coolers in 3 single-fan and 3

double-fan units, the evaporative condensers in 14 sizes ranging from 5 to 100 ton capacities.

New Cooling Units Shown By American Coils

American Coils Co. introduced two new types of cooling units. The "All-service" overhead units are designed to allow plenty of overhead clearance yet to distribute air evenly throughout the cooled area. The "Double Shot" unit has been designed to pass

the intake air through the cooling coil twice, resulting in high efficiency with low velocity. The cooled air cannot short cycle, and high humidities are obtained because of the very shallow coil.

Honeywell Has New Recorder for Lockers

Minneapolis-Honeywell introduced a new automatic temperature recorder for food locker plants. The entire working mechanism of the re-

Cut!



CALL-BACKS



WITH GRUNOW CARRENE METERS

It is false economy 4 out of 5 times to install an ordinary dehydrator. Genuine Grunow Meters have built-in dehydrator cans. Single seal of brazed phosphorous copper. Entire meter flow-tested. 50,000 in past five years. Satisfy your customers on the first call and have extra time for increased service profits!

Write for Information on New Discounts.

Grunow

AUTHORIZED SERVICE, INC.
4321 W. Fullerton Avenue, Chicago, Illinois

DECEMBER, 1946

Remedy for Sick Systems!



The DFN System not only keeps "healthy" units clean and dry . . . it also brings "sick" systems back to good running order. In abnormal conditions of high moisture—high sediment—moisture and sediment—sludge and sediments, etc., simply insert a special DFN Cartridge according to ailment. As soon as normal operation is restored, put back a standard cartridge and the unit is protected against further danger of moisture, acid, sediment and sludge. No need for other parts, auxiliaries on installations.

Only the DFN System offers this valuable feature because it consists of a permanent outer shell and easily replaceable, interchangeable cartridges. The standard DFN Cartridge dehydrates, filters and neutralizes. When servicing, simply open the shell and replace the inexpensive cartridge. It is ready-to-use, factory-packed, hermetically sealed, assures full-strength dehydration, traps finest particles without pressure drop. Ask your distributor for full details. Write us for Catalog R-7.

McIntire Connector Company, 257 Jefferson St., Newark 5, N. J.

Only the

DFN SYSTEM

DEHYDRATES
FILTERS
NEUTRALIZES

DEHYDRATORS • STRAINERS

FILTERS • NEUTRALIZERS

corder is protected by a dust-proof and moisture-proof heavy aluminum case, with white exterior finish. One-week recording is shown on the timing disc. The instrument will record temperatures from minus 30 F. to plus 70 F.

The instrument is said to be easy to install; the panel is located outside the cold storage area so that it can easily be seen, the sensing element is located in a representative area inside the cold storage space, and is connected to the recorder by an armored capillary tube.

Room Cooler, Truck Unit Introduced By Sterling

Introduced by Sterling Refrigeration Co., Inc. were a 3-hp room cooler providing for expulsion of air to floor, and a heavy-duty, air cooled truck refrigeration unit distributed by The Omaha Body & Equipment Co., Inc.

The packaged conditioning unit provides for air circulation by directing the cool air to the floor level, where it forces the warm stale air upward to the ceiling level from

which it is then expelled to the outside.

American Brass Displays Flexible Charging Hose

American Brass Co. introduced its new flexible charging hose with a display which graphically illustrated the four layers of materials of which this hose is composed. From the inside out, these layers are as follows: flexible stainless steel tubing, synthetic covering, wire braid, and synthetic outside covering. The hose is equipped with SAE fittings. Copper tube ends are optional.

Temperature Alarm for Refrigerated Areas

Electric Glass Co. introduced two new products: the Zerostat, a temperature alarm device for home freezers, meat cases and other types of refrigerated areas, and Eglastats, mercurial sealed-in-glass thermostats which are said to be adaptable

A BETTER THAN



9 to 1

PREFERENCE*

LOOK FOR THE CAN WITH THE BLUE LABEL WHEN YOU BUY IT IN BULK!

Profit from the experience of men who know the extra advantages of Davison's. Specify Davison Refrigeration Grade Silica Gel from your jobber. He has it in bulk or in factory-charged dehydrator cartridges.

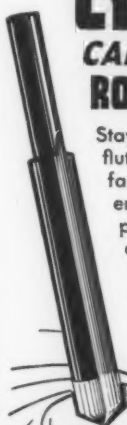
*In a recent unbiased survey made among refrigeration service engineers, 91% . . . yes, more than 9 out of 10 practical, working service men who specified a brand, preferred Davison's!

The Davison Chemical Corporation
Progress through Chemistry **D** BALTIMORE-3, MD.

Canadian exclusive sales agents for DAVISON SILICA GEL:

CANADIAN INDUSTRIES LIMITED, General Chemicals Division

Drill the New Easy Way WITH CYCLONE CARBIDE TIPPED ROTARY DRILLS



Stay sharp longer. They're fluted — cut 4 to 8 times faster. Last 50 times longer. Used in hand brace, portable, electric drill or drill press. No pounding — no noise. Accurate, clean-cut holes — no ragged edges. Ask your distributor.

THE FINEST MASONRY DRILL MADE!

New England CARBIDE DRILL CO. INCORPORATED
 CAMBRIDGE 39, MASS.

to any application where compact, accurate sensitive control is essential. These last-name units are just now being made available for non-military users.

The Zerostat warns when the temperature in the refrigerated compartment becomes excessive through

RECENT medical reports indicate that nutrition is an important factor in individual susceptibility to solvent poisoning, according to recent reports of the Safety Research Institute, Inc. A person on a poorly balanced diet, particularly if it is deficient in protein, calcium, or vitamins, or high in fats, may lack normal resistance to the effects of solvent vapors, it is stated.

faulty operation of the refrigerating mechanism, or by its failure to operate. Warning is by means of an alarm bell, in ample time to prevent spoilage of food. The Zerostat is factory-set to sound an alarm at any predetermined temperature. Four models are available, at prices from \$25.95 to \$39.95.

The Eglastats thermostats are said to record minute temperature changes from minus 30 F to plus 750 F.



Refrigeration Products



Coils for Refrigeration
Coils for Air Conditioning
Air Conditioning Units
Humid-Temp Forced Convection Units
Polished Aluminum Disseminator
Pans
Steel Plate Coils
Evaporative Condensers
Industrial Coolers
Water Coolers

LARKIN COILS

519 Memorial Dr., S. E.
ATLANTA, GA.

New Beer Pump by Ramsey-Bennett

A new balanced-pressure beer pump called the "Air-ite" was introduced by Ramsey-Bennett Co., Cleveland. Immediate delivery was promised. The unit has a 5-year guarantee.

The unit has a heavy-duty dual voltage $\frac{1}{8}$ hp motor, and a die-cast aluminum compressor that is said to deliver oil-free air. Pressure control is by standard automatic pressure switch, cutting in at 45 lbs., out at 65 lbs. Pressure is adjustable to

any beer system. Heavy-welded safety tank is tested to working pressure of 150 lbs. The unit is mounted on stamped steel feet.

Application Methods of Zonolite Shown

Universal Zonolite Insulation Co. displayed construction details for the insulation of various type cold storage structures, and different methods of insulating with Zonolite. Illustrated were fill-type floor construc-



Even Santa was Surprised!

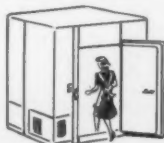
Santa gets plenty of "fan mail" this time of year... but even *he* would be amazed at the fine letters we've been receiving from satisfied jobbers, dealers and their customers.

For example: "American outsells the competition three to one" ... "not a complaint in a carload" ... "we're concentrating our sales efforts on your line exclusively" ... these, indeed, are gratifying words; ample reward for the extra measure of manufacturing skill and materials that goes into every product. Proof that AMERICAN means *Quality in Refrigeration*.

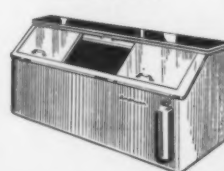
Farm, Home and Commercial Freezers, 8, 15 and 22 cu. ft.



Extensional Walk-In Coolers, wood or metal clad, in all sizes.



Arid-Air Bottle Coolers, the last word in dry beverage cooling.



Write for new colorful brochure and price lists —some dealerships still available.

AMERICAN

REFRIGERATOR & MACHINE, Inc.
2700 University Avenue, N. E., Minneapolis 13, Minn.

tion, frame type construction, frameplywood type, double-wall frame construction, glazed-tile masonry, masonry, steel and concrete construction, and walk-in cooler box construction. A booklet on "Cold Storage Insulation" is available.

New Sporlan Dehydrator Serves As Filter Also

Sporlan Valve Co. introduced a brand new dehydrator which also combines an efficient filter in the

same compact unit. The drying and filtering element consists of a molded block, is insoluble in mixtures of refrigerant, oil, and water, and will not powder or pack.

Designed to eliminate some of the troubles common to small refrigeration systems, this new unit has a capacity rating of $\frac{1}{2}$ ton, inlet and outlet connections with $\frac{3}{8}$ -in. SAE flare, and volume of $8\frac{1}{2}$ cu. in. Because of its unique construction, it is claimed that there is no appreciable pressure drop due to refrigerant flow.

Arcade Spotlights "400" Hardware Line

Arcade Mfg. division of Rockwell Mfg. Co. featured its new low temperature cabinet hardware, including a No. 437 stop hinge and No. 400 lock. Both items are of cast bronze, and are available in either nickel or chrome finish. The hardware is particularly recommended for use on off-set freezer lids, such as are used on many types of low temperature cabinets.

Safety Relief Device for Fractional Units

Black, Sivalls & Bryson, Inc. introduced its "Atom" safety head for use on fractional horsepower condensing units. The device is applicable to all types to meet the requirements of various inspection codes and city safety regulations.

Body of the unit is of brass, and the pressure rupture member (diaphragm) is of coated aluminum; when the diaphragm bursts, a $\frac{1}{4}$ " diameter opening provides instant

NOW... a cold-box type "Serviceman"



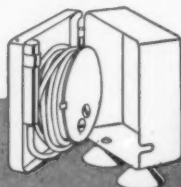
RANGE
- 30° to
+ 65°!

Marsh does it again... first!

IT'S the celebrated Marsh "Serviceman" with range increased to match your ever-increasing work on quick freeze units. Yes, it now indicates from -30 to +65 degrees F. Along with this it has all the features of the original "Serviceman"—the same accuracy, same utility, same ability to tell you what's going on behind the closed door. Here is a "must" for your service kit.

JAS. P. MARSH CORPORATION, 2060 Southport Avenue, Chicago 14, Illinois

★ A heavy-duty precision movement, guaranteed accurate within one degree. Has Marsh "Recalibrator" to keep it accurate. Note hinged back containing bulb and 5 ft. of tubing slender enough to pass between refrigerator door and jamb. Suction cups prevent slipping and protect surfaces. The "Serviceman" is still available in ranges—10° F. to +100° F.



MARSH

Refrigeration Instruments

**COMPARISON
WILL PROVE
IT'S BETTER!**



Patent Pending

"The Seal of Approval"

Write for Stock and Price List. Learn how you can save by eliminating "call backs".

TEMPERATURE
Control Devices
NEW HAVEN 15, CONNECTICUT

THE REFRIGERATION INDUSTRY

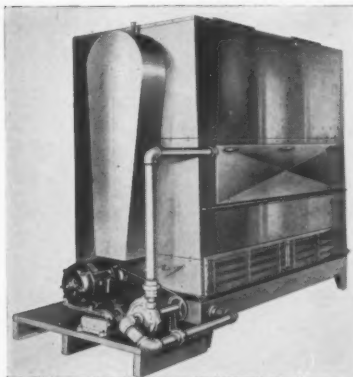
pressure relief. The "Atom" is a throw-away unit; the disc is installed and the unit sealed, tested and inspected at the factory.

Moisture Indicator Is Shown By McIntire

McIntire Connector Co. introduced a new moisture indicator said to provide laboratory accuracy on-the-job in testing Freon and Methyl Chloride systems for excessive moisture. This indicator, which shows results in only two minutes, consists principally of a cartridge containing a chemical which changes color when moisture is present and a holder which traps oil in the refrigerant being tested.

Marlo Has New Line of Cooling Towers

Marlo Coil Co. announced a new line of cooling towers, compact in space, weight and price, and em-



bodying new features which are said to combine the merits of the three previous conventional designs—deck, spray and fan type towers.

Fully detailed in Bulletin 406, available from the company, the cooling towers are available in 10 sizes, from 3 to 50 tons in capacity. They are designed to solve water and sewer problems for all types of unit air conditioners and refrigeration plants with water cooled condensers. The units are a modification of the Marlo line of evaporative condensers, being identical in dimension, design and construction except that in place of the condensing coil suitable wetted deck surface is used.

Models are offered in an optional



NU-COIL

(CONCENTRATED)

COIL CLEANER

NO OBJECTIONAL ODOR

UTMOST IN LABOR SAVING

**CAN BE USED OVER
REPEATEDLY**

OFTEN IMITATED

IS SIMPLE TO APPLY

**LET YOUR REFRIGERATION
WHOLESALE EXPLAIN—
NOW**

SKASOL CORPORATION

112 GLENCOE AVE. WEBSTER GROVES 19, MISSOURI

NOW!

**FORGED FLARE NUTS
AND FITTINGS**

Complete Stock

Prompt Shipment

Electrimatic

2100 INDIANA AVE
CHICAGO 16 ILLINOIS

choice of indoor or outdoor, unidrive or remote pump, and in stainless steel.

Airtemp Shows Small Compressor Series

Chrysler Airtemp unveiled a new development—a balanced line of sealed, radial compressors in the “smaller” commercial class, in its exhibit at the Show.

This brings the radial type compressor to a new range from $\frac{1}{6}$ to 2 hp. The new line is not now in pro-

duction, but will be as soon as materials and supplies can be obtained in proper volume. It will be produced in two, four and six cylinder models, operating at 1750 and 3450 rpm, and will be offered in a line giving complete coverage from 45 F to minus 25 F. This is made possible by interchangeability of parts and one standard bore on all models.

Although the new line will feature basically sealed units, for areas where DC current is used a different end assembly can be substituted to provide for external direct drive.

Type “O” Controls New With Ranco

Ranco, Inc. introduced a new Type “O” line of commercial refrigeration controls designed to meet a wide range of field applications, both standard and special in type.

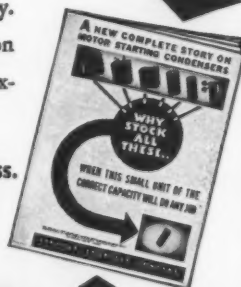
All internal working parts are of stainless steel; exterior case is of steel, plated to prevent rust, and finished with black enamel. In operation, the controls are single pole, snap acting; range screw changes both the cut-in and cut-out, differential screw changes cut-out only. There are outside range and differential adjustments with visible scales for both.

THE MOTOR-START CAPACITOR YOU NEED... *When you need it!*

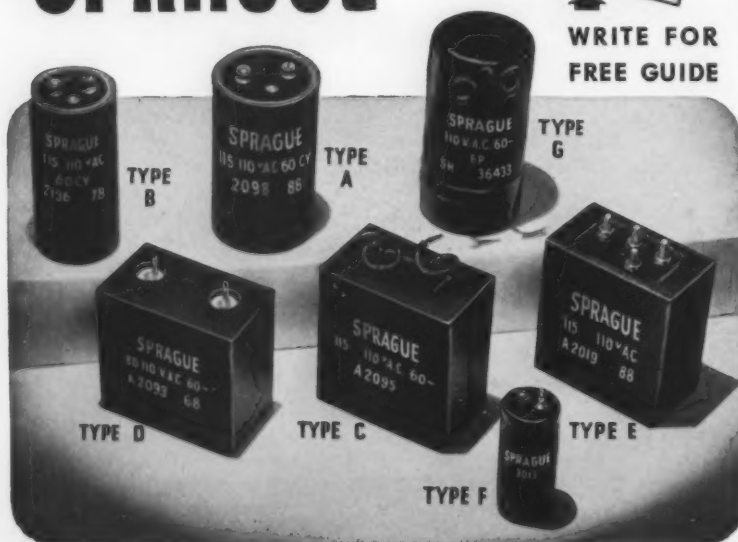
Keep a small supply of Sprague UNIVERSAL Motor-Start Capacitors always in stock. Be prepared for fast, accurate service on any refrigerator replacement. These sturdy little units are first choice of leading equipment manufacturers. They're smaller mechanically, better electrically. Only eight types equip you for quick service on almost *any* job. Our FREE GUIDE tells you exactly how to select the right one.

SPRAGUE PRODUCTS CO., North Adams, Mass.

SPRAGUE



WRITE FOR FREE GUIDE



Ice Air Shows Three Store Cooler Units

Ice Air Conditioning Co., Inc., introduced three models of store coolers, in capacities of 3, 5 and 7 tons, which are marketed under the name Prop-R-Temp. Capacities of the units range from 1400 to 2100 cfm.

Cabinets are of furniture steel panels formed into rigid channel and



angle sections, electrically welded. Front and back covers are removed easily for servicing. Compressor-condenser unit is mounted on helical steel springs for less vibration; throw-away type filters are used.

Cooling coil has extra area to allow full-rated capacity under all conditions. Unit, cooling coil and condensate pan are placed at a slight angle to allow for full-size filter and even air flow. Fan speed is adjustable, and air is delivered at low speed for quiet operation.

Heat Exchangers Built Of Cast Aluminum

The Heat-X-Changer Co. showed its line of cast aluminum heat exchangers and liquid coolers.

The heat exchangers are designed for use as water cooled capacity boosters on air cooled units. By placing a heat exchanger between the compressor discharge valve and the air cooled condenser, and running water through the liquid coil, it is claimed that the condensing unit capacity will be equivalent to a water cooled condensing unit.

The company's line of liquid coolers is designed for application to water coolers, soda fountains and for cooling beer or other beverages.

Welding and Cutting Equipment by Linde

The Linde Air Products Co. aroused unusual interest with its display of Prest-O-Weld welding and cutting equipment, Perst-O-Lite halide leak detectors, and air-acetylene appliances for heating, soldering, brazing and other uses.

The company also announced that it expects to have available soon, materials permitting, portable brazing and welding outfits through refrigeration wholesalers and other suppliers for use by refrigeration contractors and service men, under an arrangement which allows the user to lease the equipment or buy it outright, at his option.

Year-Around Conditioner Employs Reverse Cycle

Drayer-Henson, Inc. displayed its self-contained, reverse cycle, year-around air conditioning unit known as "Airtopia." Designed for home, office, or commercial establishment, this completely packaged unit has only two simple controls, an on-and-off switch and a temperature setting. When these two controls are properly set the unit will operate automatically all year around.

In addition to temperature control the unit also provides for filtering the air and providing the proper humidity. The unit comes ready to attach to an electrical outlet.

Texas Wholesaler Modernizes



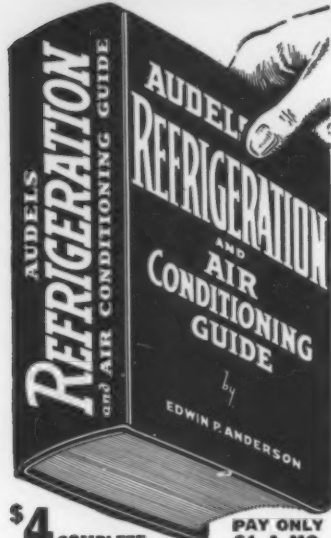
When Standard Brass & Mfg. Co., Texas wholesaler of refrigeration parts and supplies, decided to expand its Beaumont headquarters, it went "all out" on modernization by constructing a new building embodying every possible convenience for efficient operation.



Above—The order counter in this new establishment is a straight-line proposition, uncrowded and well lighted. Note the effective use of display window space at the right, and the group of separately partitioned offices at the rear. Below—This view of the stockroom, taken from the shipping pier, shows only a portion of the space devoted to this important phase of the company's operation. Note the orderly arrangement of shelving.



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AUDEL'S REFRIGERATION & AIR CONDITIONING GUIDE Answers Your Questions on Basic Principles, Servicing, Operation and Repair of Household Refrigeration—Special Refrigeration Units—Commercial and Industrial Refrigeration—Air Conditioning Systems—Over 1280 Pages, 46 Chapters, 700 Illustrations—Diagrams including data on Freon, Quick Freezing, Lockers and Water Coolers. A new timely book containing practical facts and figures for Better Service. Easy to understand and Handy Ready Reference. Step up your own skill with the facts and figures of your trade. Audel's Mechanics Guides contain Practical Inside Trade Information in a handy form. Fully illustrated and Easy to Understand. Highly Endorsed. Check the book you want for 7 days' Free Examination.

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Please send me postpaid for FREE EXAMINATION books marked (X) below. If I decide to keep them I agree to mail \$1 in 7 Days on each book ordered and further mail \$1 monthly on each book until I have paid price. Otherwise, I will return them.

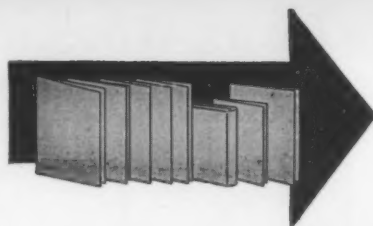
- ☐ REFRIGERATION & Air Conditioning, 1280 Pgs. \$4.
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- ☐ BLUE PRINT READING, 416 Pages 2.
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- ☐ PLUMBERS & Steamfitters Guides (4 vols.) 6.
- ☐ MASONS & Builders Guides (4 vols.) 6.
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- ☐ ELECTRICIANS EXAMINATIONS, 250 Pages 1.
- ☐ WIRING DIAGRAMS, 210 Pages 2.
- ☐ ELECTRICAL DICTIONARY, 9000 Terms 2.
- ☐ ELECTRICAL POWER CALCULATIONS, 425 Pgs. 2.
- ☐ HANDY BOOK OF ELECTRICITY, 1340 Pages 4.
- ☐ RADIOGRAM'S GUIDE, 914 Pages 4.
- ☐ ELECTRONIC DEVICES, 216 Pages 2.
- ☐ ELECTRIC LIBRARY, 12 vol., 7000 Pgs., \$1.50 vol.

Name _____

Address _____

Occupation _____

Employed by _____ R-32



Useful Literature

The publications listed below are available to readers without charge. Simply list on the postcard provided in this issue the numbers of the items you wish to receive, and send it to THE REFRIGERATION INDUSTRY, 1240 Ontario Street, Cleveland 13, Ohio. Your requests will then be forwarded directly to the companies concerned.

372—Compressors . . . Two folders issued by Jack & Heintz Precision Industries, Inc., one a general announcement of the company's tiny new hermetic compressor, the other a detailed specification sheet on the firm's open-type condensing units.

373—Expansion Joints . . . A 12-page catalog illustrating and giving engineering data, dimensional tables, and specifications for the "MagniLastic" line of packless expansion joints, anchor joints, offset joints, and turbo joints. Available from MagniLastic Division, Cook Electric Co.

374—Refrigeration Tools . . . A 20-page catalog (46R) issued by Bonney Forge & Tool Works to illustrate and describe its complete line of refrigeration mechanics' hand tools and sets for refrigeration service and repair work.

eration service and repair work.

375—Hermetic Terminals . . . A 20-page catalog detailing design, construction, and application of the line of hermetic terminals manufactured by Cincinnati Electric Products Co. Engineering data also is given on the company's line of hermetic containers for enclosing electric component parts and the "Fusite" automatic sealer.

376—Seals and Valve Plates . . . Replacement unit stock list No. 646 on the line of seals and valve plates manufactured by Chicago Seal Co. Sizes and prices are listed for every available type.

377—Color Conditioning . . . A 32-page booklet illustrating in full color the basic principles of the novel system of "color conditioning" or "three-dimensional seeing" devised by the Finishes Division of E. I. du Pont de Nemours & Co., Inc. to enable employers to increase production, improve visual conditions, and create a better working environment.

378—Filters . . . An illustrated bulletin outlining the construction and application of the line of engineered air and oil filters produced by Air-Maze Corp.

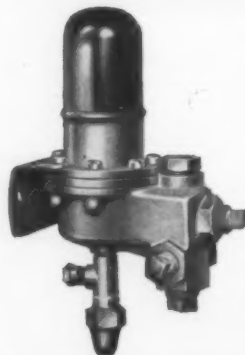
379—Metal Packings . . . An illustrated folder describing various types of metal packings. Entitled "Industrial Packing," this folder is available from France Packing Co.

380—High Speed Drills . . . A four-page illustrated bulletin (RM-1) containing complete information and prices on the new line of mechanics' length high speed drills available from Republic Drill & Tool Co.

381—Intercom Systems . . . A 12-page catalog illustrating and describing the entire line of inter-communication systems manufactured by Talk-A-Phone Co., and a separate descriptive sheet on the company's new "Special Deluxe" model.

382—Goggles . . . A four-page color folder and a separate price list giving complete information on the line of "Specti-Goggles" manufactured by Eastern Equipment Co. for use by anyone engaged in industrial grinding, chipping, welding, or similarly hazardous processes.

AMINCO Snap Action Valves For Multiple Temperature



Used with systems having more than one coil, operates from same compressor.
Adjustable from 20" of vacuum to 63 lbs. pressure. Differential 7 lbs. min. to 29 lbs. max. Free from bellows strain.
Used with any refrigerant except ammonia.
For flooded as well as dry gas types or any combination. A proven performer.

AMERICAN INJECTOR CO.

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Van D. Clothier, 1015 E. 16th, Los Angeles
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J. C. Battles, 804 Bond Bldg., Calumet, Ill.
W. H. Cody, Santa Fe Bldg., Dallas, Texas
Expert: Berg-Warner, 310 So. Mich., Chicago

NEW FIRM OPENS

O. B. Kennedy has established the O. B. Kennedy Refrigeration Co., at 1428 Missouri Ave., Fort Worth, Tex., to do commercial sales and service.



Right down the old alley...

You're really rolling 'em in, when you get the refrigeration part *made for the job*—by ordering genuine *Kelvinator*-made parts from your nearest Kelvinator parts depot.

For every Kelvinator-made *part* is produced with the same skill—and to the same high standards—as the Kelvinator *complete units* which through 30 years have come to stand for quality in refrigeration products.

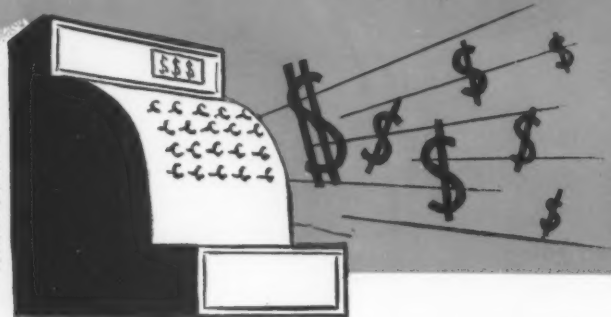
DIVISION OF NASH-KELVINATOR CORPORATION
Detroit, Michigan

Kelvinator



CONDENSING UNITS OPEN AND SEALED

SELL AND USE THESE BUSINESS-BUILDING COMPRESSOR OILS



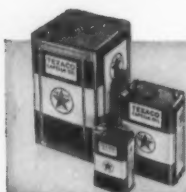
DISTRIBUTORS, dealers and service engineers all know *Texaco Capella Oils* build business by making satisfied customers. They assure the efficient compressor operation that results in repeat sales and steady growth of new, *extra business*.

You'll find every needed quality in *Texaco Capella Oils* — high stability, freedom from moisture, non-reaction with refrigerants, resistance to gumming and sludging, low pour tests, and a complete range of viscosities to assure dependable, economical compressor operation.

Texaco Capella Oils are used, recommended or approved by leading manufacturers of air conditioning and refrigerating equipment. They come in convenient 1-qt., 1-gal., and 5-gal. *re-sealable* containers that keep unused oil in perfect condition indefinitely.

You can get prompt delivery of *Capella Oils* from your jobber or dealer. For information, call the nearest of the more than 2300 Texaco distributing plants in the 48 States, or write:

The Texas Company, 135 East 42nd Street,
New York 17, N. Y.



TEXACO Capella Oils

FOR ALL AIR CONDITIONING AND REFRIGERATING EQUIPMENT



Tune in . . . TEXACO STAR THEATRE presents the NEW EDDIE BRACKEN SHOW every Sunday night. Metropolitan Opera broadcasts every Saturday afternoon.



MOTOR-CAPACITOR Housing

• Here's a general-utility housing for those replacement motor-starting capacitors. Accommodates the standard $1\frac{1}{2} \times 3\frac{1}{4}$ " unit. Heavy-gauge metal. Completely covers and protects the capacitor and terminals. Fits motor-frame contour. Provides strong, rugged, shock-proof installation. No auxiliary caps or brackets required. It's another excellent reason for standardizing on Aerovox for your motor-capacitor replacements!

• Ask Your Jobber . . .

Ask for this handy, inexpensive, first-class-job housing. Ask for those extra-duplicate or universal types you need, as listed in the latest Aerovox catalog. Copy on request.



FOR RADIO-ELECTRONIC AND INDUSTRIAL APPLICATIONS

AEROVOX CORP., NEW BEDFORD, MASS., U.S.A.
Export: 13 E. 40th St., New York 18, N.Y. • Cable: 'ARLAN'
In Canada: AEROVOX CANADA LTD., Hamilton, Ont.

THE PRACTICAL Refrigeration Engineering MANUAL . . . by Harold Smith

XV. Storing and Dispensing Beverages

PART I

THE storage and dispensing of beverages covers a large range of products cooling and refrigeration applications. Generally these products are divided into three classes:

1. Beer and liquors.
2. Soft drinks and milk.
3. Sodas and other fountain beverages.

As the products in each group and methods of cooling vary somewhat, we will take each separately in our discussion.

STARTS AT BREWERY

The cooling of beer involves both draft beer in kegs and bottle beer. With beer in kegs the cooling starts at the brewery, the kegs of beer being placed in large storage coolers and cooled down to temperatures of 35 to 40 F. This initial cooling lowers the temperature of the beer and keg, simplifying cooling requirements of the retail dispenser.

DELIVERED COLD

Strange as it may seem, there are still thousands of beer places selling draft beer that depend on ice or a cool basement as their only means to keep the beer in a palatable condition. With such methods of cooling, it would be impossible for such places to operate were it not for the fact that the kegs of beer are cooled at the brewery and delivered to the dispensers while the beer is still cold.

The larger, well-equipped taverns, however, employ mechanical refrigeration for holding the beer at low temperatures until it is sold to the customer. Most well-operated taverns plan to have in storage on the premises a stock

of keg or draft beer to take care of sales for from three days to a week.

This stock is stored in a pre-cooler, usually located in the basement, directly under the bar on the floor above.

The beer becomes shaken up from loading on the truck and unloading at destination, and should consequently be permanently placed in the pre-cooler so that little or no additional moving of the keg will be required until the keg is empty.

FOR BETTER BEVERAGE

This allows the sediment to again settle in the keg, and provides a more finished and satisfactory beverage when dispensed to the consumer.

Precooling of keg beer is usually a relatively light refrigeration load. As a rule, the pre-cooler has solid walls, with one door through which the beer is loaded in and the empty kegs removed from the cooler. The beer is received already cooled by the brewery, and the additional refrigeration is required to lower the temperature usually only 5 to 10 F. while in the cooler.

PRE-COOLER HEAT LOAD

As the cooler is usually installed in the basement, and basement temperatures average around 70 F. in hot weather, the heat leak is also a relatively light load, the temperature in the pre-cooler being usually held at approximately 35 F.

Inside the cooler, a battery or manifold of pipes and valves enable the tavern operator to connect up several kegs of beer at one time with pipe lines con-

ARKANSAS LOCKER OPERATORS MEET

J. H. Wright of West Memphis, Ark., was elected president of the Arkansas Frozen Food Association at its recent annual convention. Stuart Jones, Booneville, was named vice-president, Marshall C. Heck was re-elected secretary, and H. T. Cumnock of Little Rock, treasurer. W. F. Saunders, Malvern, was elected national director, succeeding James A. Wallace, Russellville. About 100 opera-

tors attended the meeting.

Taking part in an open forum on locker plant problems were J. Dan Harrell, Camden; H. H. MacArthur, Benton; Mr. Wright; R. L. Cassady, Nashville, and A. K. Baker, Harrisburg.

A round-table discussion on the relation of locker plants to other businesses was led by C. J. Shackelford, DeWitt; J. O. Dickey, Van Buren; H. E. Maxwell, El Dorado; Dewey Russell, Paris, and Dan Proctor, Wynne.

nected to draft arms at the bar above, so that several different brands of beer may be on tap at the same time.

The beer is forced up to the draft arms either by air pressure provided with a small air compressor or by CO-2 gas supplied in cylinders and connected to the pipe systems.

Tap rods are plugged into the kegs to link the pipeline with the beer, and the air or CO-2 gas is connected to the tap rod to provide the pressure necessary to force the beer from the keg up through the pipes to the bar.

Several different methods may be used for constructing these pipe lines between the cooler and the bar. The lines are filled with beer at all times and therefore should be insulated or refrigerated, otherwise the first beer drawn after an idle period will be warm and unsatisfactory.

INSULATED DUCT JOBS

Some installations are being made with insulated ducts carrying the pipe lines to the bar. These ducts open into the top of the pre-cooler, and the temperature is the same as the pre-cooler, as the air within the duct is circulated from the cooler.

Other installations are made with the pipes run open. Such installations should include insulation on the pipe lines.

While there is some variation in opinion of what the correct temperature of draft beer should be, a temperature around 35 F. is usually considered about right. Beer drawn at this temperature usually does not warm up to a temperature above 40 F. by the time the consumer starts to drink.

There is, however, an increase or temperature rise as the glass into which the beer is drawn is at room temperature which raises the beer temperature while being delivered by the waiter or bar

tender and this continues until the consumer drinks the beer.

Beer drawn at a temperature around 35 F. results in a glass with a foam head, or "collar," about $\frac{3}{4}$ in. high. This is the ideal condition from the operator's point of view.

As the temperature of the beer increases, the gases in the beer become more active and more foam appears in the glass, often running over and resulting in a loss of beer which can represent a sizeable shrinkage in a keg dispensed under high temperature conditions.

The regulation of the air or gas used to force the beer to the bar also influences the foam conditions.

TOO COLD—NO FOAM

When beer becomes too cold, or when improper pressures are used to move the beer, a glass will be drawn with little or no foam. This gives the beer the appearance of being flat, and is usually objectionable to the customer.

With correct handling of the beer plus proper temperatures and air pressures, a very uniform and satisfactory glass of beer can be dispensed to the customer.

Regarding the refrigeration requirements for handling cooling of draft beer, it is usually considered satisfactory and desirable to use a forced-air unit cooler inside the cooler. The fast circulation of air quickly cools the product, and the air circulates in between the kegs, providing a uniform temperature throughout the cooler and also in the pipe duct to the bar, where a duct is used.

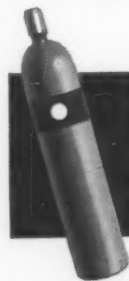
The humidity of the air is not important on this type of installation. However, there is usually a tendency for the cooler to be wet, particularly on the floor, and a low humidity condition helps to hold down the moisture inside the cooler.

(Continued next month)

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- ③ Banded cylinders for easy identification.



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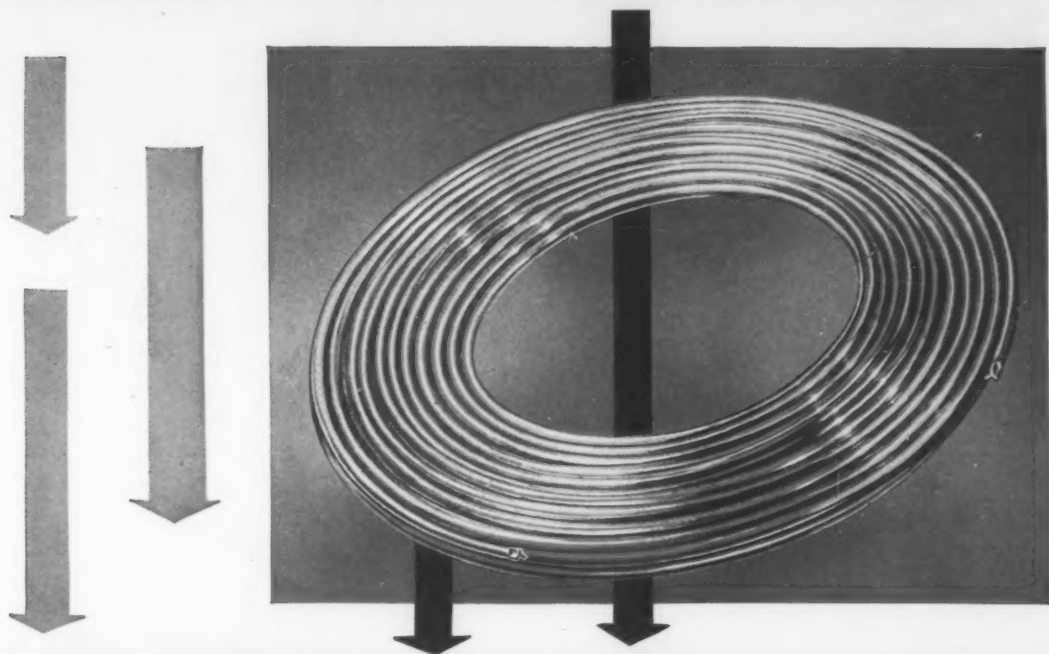
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The interior of Revere Dryseal is dehydrated during production and each length is sealed at both ends to keep moisture out. This tube is made of deoxidized copper

(99.9+ % pure), and is carefully kept oxide-free during every manufacturing step. In annealing it to dead softness so that you can work it easily, Revere does the heating in a controlled atmosphere.

Made for refrigeration, air conditioning, bottled gas, heat control, and other exacting services, this superior tube is being shipped to Revere Distributors as rapidly as Revere can produce it *without lowering the standard of Dryseal quality.*

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Over the COUNTER

JIM: Let's see, now—we've covered pretty thoroughly the shortages we're experiencing in trying to keep our customers supplied with fractional motors, condensing units and compressors, and copper tubing. Taking it up from there, I believe you also said that belts are on the short list, didn't you?

FRANK: That's right, Jim. Like all the other items with which we're having difficulties, we're constantly getting large shipments of belts in here. In many of the popular sizes, though, our supply is so far behind the demand that it makes a pretty sorry picture.

JIM: I suppose it's all a part of the same general picture—a lot of old

machines are still in use because of the shortage of new replacement condensing units, and these old units chew up belts as fast as they're put on the job.

FRANK: Yes, I'd say that's one reason for the greater demand; but coupled with that, belt manufacturers are having trouble with getting raw materials, and they are also short of production facilities and moulds and skilled workers. The demand for belts is higher than ever before, and producers are finding it difficult to expand their facilities fast enough to handle the new business that has come in, along with the increased replacement demand. Inventories are low, and

that makes a tough situation tougher.

JIM: It looks as though there is nothing we can do about it except to get all the belts we can and see that our customers are all taken care of as fast as possible.

FRANK: We're doing everything possible to meet this belt situation, and I hope we'll begin to see some improvement in this situation before the heavy seasonal demand starts to develop next year. Perhaps the belt manufacturers will start catching up over the fall and winter period; and we'll do all we can to build up our inventory so we'll be in better shape for belt business next season.

JIM: That's about all anyone can do. So let's work toward this end.

FRANK: One of our really big problems right now, Jim, is with refrig-



"No, no—not there, Mrs. Dillsworth; move it about two inches further right."

erants. The manufacturers are doing their best to take care of our needs, but the cylinder situation is so bad that the job is pretty discouraging.

JIM: The cylinder situation has been bad for a long time, but I'd hoped it would start getting better this summer and that a lot of new cylinders would be available.

FRANK: I thought so, too, but new cylinders continue to be very scarce and the situation is worse than at any time. Old cylinders have apparently gone into hiding; users don't turn them in, fearing they'll

"ADVANCED" REFRIGERATION COMPRESSOR

"ADVANCED" Refrigeration Compressor, Model 100—1 $\frac{3}{4}$ " x 1 $\frac{1}{4}$ "—2 cyl., flywheel 10" diam., 2-groove "A" section— $\frac{1}{2}$ HP. For use only with Freon refrigerant.

**THE $\frac{1}{2}$ HP
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AVAILABLE to Manufacturers and Jobbers

THE COMPRESSOR YOU CAN DEPEND ON

not get others back if they do.

JIM: But the manufacturers can't give us refrigerants unless they have cylinders to ship them in.

FRANK: Another bad situation is developing with a big number of cylinders on which the five-year inspection period has expired. All such cylinders must be sent back to be re-inspected and re-dated, but many are being held out in the field, in use, in violation of the rulings of the I.C.C.

JIM: What are we doing about this problem?

FRANK: We've tried to bring this matter to the attention of all our customers. We can't refill cylinders on which the inspection period has expired, and it usually takes from a week to 10 days to get a cylinder inspected and back in use again. Many of our customers can't see how they can get along without the cylinders for this period, so they don't want to turn them in.

JIM: This is a serious situation, and it probably won't be entirely solved until new cylinders become avail-

able to relieve the shortage.

FRANK: All the refrigerant manufacturers will re-inspect and re-test the cylinders if the trade will give them a chance to do so. There are also several other companies who are re-testing cylinders; but getting the cylinders back is the problem.

JIM: How are the other wholesalers working on this problem?

FRANK: As far as I am able to learn, all wholesalers are refusing to

charge refrigerant into any cylinder on which the test period has expired.

JIM: I suppose this means that users keep these outdated cylinders and recharge them for their own use.

FRANK: That seems to be what is happening in a great many cases.

JIM: I think we'd better put all our men to work telling this story to the trade and make every effort to get these cylinders back so they can be re-inspected.



Penn Brass & Copper Company extends the season's best wishes and copper tubing at its best. In all 4 seasons, 'Superior' is better 4 ways - - dry, clean and bright, seamless, and easy bending. Penn points with pride to its high quality tubing for trouble-free installations. We're doing our best to meet the increased demand for 'Superior' tubing. "After the Pressure's Off" try PENN for all your tubing requirements - - we know you'll like it. In straight lengths or coils, 'Superior' has proved "The Season's Best by Any Test."

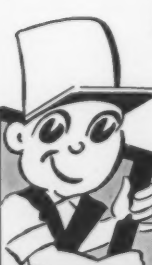
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The Papco #400 is not only the fastest but the easiest and most efficient flaring tool ever developed. Through popular demand increased production has enabled us to effect prompt deliveries on Papco #400. You will want to know all about it. — write for latest Papco bulletin today.

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RSES MEETING . . .

Continued from page 38

secretary, also was voted a life membership.

New directors of the organization include: Walter Booth, Virginia; T. C. Burroughs, Texas; Ned Brossoit, Canada; A. L. Robertson, Wisconsin; C. S. Tucker, Alabama; Charles Yates, Washington; Earl Yockey, Ohio.

Clarence Buschkopf, who had served as acting president since the

resignation of Ernie Pleskott, was unanimously elected to the full presidency immediately before retiring in favor of the new officers.

NEW DEALER GROUP . . .

Continued from page 38

elected president of the new association; H. B. Adams, H. B. Adams Refrigeration, Tampa, Fla., is vice president; A. J. Edmondsen, First Colony Distributors, Inc., Raleigh, N. C., secretary; and Harry Hattenbach,

Hattenbach & Son, Cleveland, treasurer.

On the board of directors of the new organization are:

Z. O. Jennings, (McCray) Little Rock, Ark.; L. W. Shell, (Hill) Chicago; Fred Kogod, (Hill) Washington, D. C.; Ralph S. Hamilton, (Tyler) Portland, Ore.; Gordon L. McWilliams, (Hussmann) Atlanta; Thos. Sullivan, (McCray) Houston, Tex.; Chas. Q. Sherman (Weber) New York City; Chas. Cole (Viking) St. Louis; Clifford White, (Viking) Cincinnati; J. W. Jennings, (Fogel) Greenville, S. C.; W. C. Bader, (Hussmann) Tulsa, Okla.; Walter Jones, (Warren) Raleigh, N. C.

Objectives Set

This organization has for its objectives:

1. Development of a code of ethics to be used as a set of rules in the game of competition between commercial refrigeration dealers at the dealer and distributor level.

2. Development of sound business practice in procedure needed for successful operation by members of the industry at the distributor and dealer level.

3. Research on and dissemination of information as determined on problems involved with the development of sound business practice at the distributor and dealer level for the sale to various groups of buyers.

4. Establishment of standard practice in handling trade-ins.

It is the intention of this organization to bring about a better relationship with manufacturers, officers of the group said. It has no intention of trying to fix or control prices, but its aim is to standardize the business so that the customer—the final purchaser of equipment—may be assured of fair treatment.

The association intends to foster such laws as will benefit the industry and the user of such equipment.

According to preliminary discussions held at the initial meeting, two types of memberships in the organization will be open: 1. Full member, for distributors and other outlets who buy commercial refrigerators direct from the manufacturers; 2. Associate member, for retail dealers who purchase this equipment through distributors.

The Book You Helped us Write

Chapter 45 . . .

The record of VIRGINIA'S growth would make a large book—a paragraph for every day, a chapter for each year. Throughout that story of service to industry around the world there runs the theme of progress, of advancement and development. It is a story you have helped us write. Here, at the beginning of Chapter 45, we gratefully acknowledge the Refrigeration Industry's contribution to our growth. We enter our 45th year intending to continue growing, through serving essential needs of the Industry, by supplying high quality refrigerants for better refrigeration. EXTRA DRY ESOTOO and V-METH-L are VIRGINIA Refrigerants of tested purity, for service surety.

Distributors of
"Freon" Refrigerants 11, 12, 21, 22, 113

VIRGINIA

SMELTING COMPANY

WEST NORFOLK, VIRGINIA
NEW YORK • BOSTON • DETROIT

REWA PROGRAM

Continued from page 38

gram which the organization will press for:

1. A written statement of the sales policy of the individual manufacturer, which policy will hold for all parts of the country.

2. More vigorous promotion of the theme, "buy from your wholesaler."

3. Net cost schedules for use by the wholesaler, as well as a net resale schedule to replace the complicated discount schedules which in many instances are now the rule.

4. Establishment at the earliest possible time of the dates for the next All-Industry Show, so that REWA can tie-in its plans with general plans for the Show.

5. Reduction of warranties on products from one year to 90 days.

6. New definitions to distinguish the "true" manufacturer from the assembler, and a schedule of discounts which will permit wholesalers to sell to some of the firms in the latter category.

7. Easing of regulations of refrigerant cylinder recording.

3. Simplified listing of parts by manufacturers of condensing units.

LOCKER OPERATORS NAME NEW NATIONAL OFFICERS

After passing at early business sessions a number of amendments and by-laws to its constitution in an effort to provide more democratic elections, the National Frozen Food Locker Association proceeded to elect its officers for 1947 under the newly adopted rules.

President of the group for the coming year is E. G. Spencer of Houston, Tex. Other new officers are: 1st vice president, Harry Flory, Eaton, Ohio; 2nd vice president, Vaughn R. Walker, Watseka, Ill.; 3rd vice president, Howard E. Ullery, South Bend, Ind.; treasurer, William H. Hasebroock, West Point, Nebr.

In addition to these officers, the following members were elected to the organization's executive board: C. G. Holme, Jr., retiring president from Sebastopol, Calif.; E. B. Nelson, Fairmount, Minn.; L. C. Shellabarger, Mt. Pleasant, Iowa. Mr. Holme will serve ex-officio.

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● BY PARAGON TIME SWITCHES

Why worry about defrosting? Here's a Switch that provides dependable time control for SHARP FREEZERS in all types of automatic defrosting . . . in locker plants, dairies, breweries, packing houses and commercial refrigeration. Regular defrosting increases efficiency and reduces operating costs.

The PARAGON LINE offers service proved . . . precision . . . quality Time Switches and Timers . . . rugged and durable . . . with a great performance record.

Paragon can produce Time Controls for any system such as Freon, brine, ammonia, etc., regardless of temperature and whether defrosting is done by hot vapor, electric heat or water spray. Put your defrosting problems up to Paragon engineers.

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ALL MODELS
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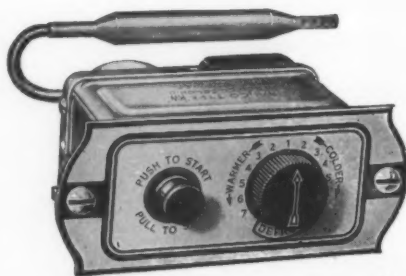
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there is
NO
Santa Claus
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When Ranco Controls take over



Ranco Type KWS general replacement control with trip-free overload mechanism. For applications requiring differentials of 8° or more.

a refrigeration system it's a Gift of a long Holiday free of trouble.

Sturdy construction of carefully machined stainless steel parts gives Ranco Controls a long, continuous operation life. Precision work by skilled machinists insures a high degree of accuracy in temperature or pressure control.

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COLUMBUS 1, OHIO

"Let's share our knowledge—exchange our experience"

Here's how

THE SERVICE MAN'S DEPARTMENT

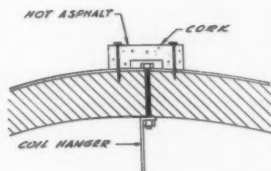
The "Why" of Solder or Sweat Connections

It's always helpful, when you're doing a job, to know why it should be done in a certain way. Here, from Wolverine Tube's booklet, "Tubing Trails," are most of the most important "whys" associated with the accepted methods of making solder or sweat connections:

Cutting tube to length and burring. Why? To get a good joint, it is necessary that all burrs be removed from the tube.

Cleaning. Why? If tube is not clean, flux will not adhere to or spread over the entire surface. Any method of cleaning is satisfactory, providing it removes the dirt or oxide from the surface.

Fluxing of fitting and tube. Why? To prevent tarnishing or oxidation of the metal, flux is applied after cleaning. Flux, during soldering, dissolves any oxides formed on the heated sec-

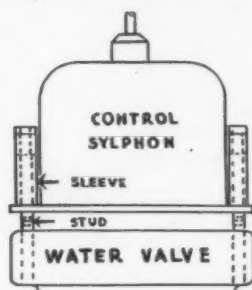


IN hanging coils in vaults and coolers, it is usually necessary to bore holes through the top of the box and use long bolts to support the cooling unit. These bolts conduct heat into the enclosure and cause condensation on the bolt which both rusts out the bolt and rots the surrounding wood.

To prevent this, we stick a piece of corkboard, with a hollow in it for the bolt head, over each one that protrudes through the box. It is even better if they are dipped in hot asphalt first. This keeps the bolt cold and dry and prevents rot and rust.

Eric Warren, Sinton, Tex.

Edited by
Warren W. Farr



FREQUENTLY it is necessary to replace the valve part of a water valve or remove it for cleaning.

In order to save time and refrigerant, I disconnect the control element from the valve body, then I unscrew the valve from the water lines and repair or replace it.

Since the control element is under pressure and expanded, it is not easy to get the screws back in place.

I now use two pieces of threaded rod 8-32 x 3/4" long slotted on one end for a screw driver and two pieces of 1/4" O.D. brass rod tapped 8-32 x 3/4" long also slotted on one end.

The rods are screwed into the valve body diagonally opposite each other.

The element is placed over them. Then the sleeves are screwed on the rods drawing down the element. When it is down far enough to catch the two screws, they are installed and drawn down. Then remove the sleeves and rods and install the other screw. This job only takes about two minutes.

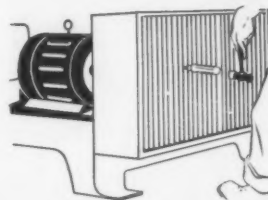
Edward A. Wenk, New York City

tion and thus allows the metal to flow freely into the tube joint.

Telescoping of tubing into fitting. Why? Clearance between the tube and fitting has been carefully worked out in manufacturing tolerances, and

should be .003" to .004" to obtain the best results. This is termed capillary clearance, to promote capillary attraction. Capillary attraction draws the solder into the joint when heat is applied, in the same manner as blotting paper absorbs a drop of ink.

Heat and soldering. Why? Heat is applied to the joint until the flux appears to boil. This is the correct temperature for soldering. Solder wire, usually 50% lead and 50% tin composition, is then applied to the edge of the joint until the solder melts and flows into the joint. The solder should now show all around the joint. Any excess is quickly wiped off and



ONE of the biggest time savers in the field, where the pulleys are out of line and it is impossible to line them without removing the motor, is illustrated by the accompanying sketch.

Insert a long keen mechanic's screwdriver through the fins of the condenser against the motor pulley, then tap until belts are in line.

John E. Ardans, Ukiah, Calif.

the joint allowed to cool.

Pin-holes will appear in the joint if:

- The joint was not properly heated.
- The metal was dirty.
- The metal was not properly fluxed.

When proper attention has been paid to all of the foregoing, a soldered joint, at ordinary temperatures, is as strong as the tube itself.



Better be SAFE with a CESCO Mask

● Don't take chances with hazardous refrigeration fumes. There's a way to be safe—use a CESCO Healthguard Mask.

No. 605 FUME KIT
gives 3-way protection
at lower cost



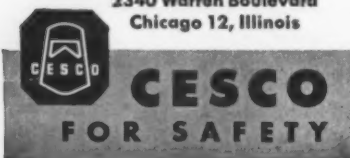
CESCO's Healthguard Fume Kit (No. 605) offers *triple protection* to refrigeration servicemen. Quick-change filter cartridges assure safety against ammonia, methyl-chloride and sulphur-dioxide fumes . . . *all in one convenient carrying case.*

The soft molded rubber face-piece of the fume mask, and the adjustable headgear assure a gastight, comfortable fit for every wearer. Large safety glass lenses give perfect visibility.

The CESCO Healthguard Kit provides *economical* protection because it is *moderately* priced.

Write for CESCO'S No. 605 Safety Bulletin for complete information

CHICAGO EYE SHIELD CO.
2340 Warren Boulevard
Chicago 12, Illinois



HERE'S HOW: To Test For Refrigerant Leaks

Most service men use a halide torch which will find leaks satisfactorily, if properly used. For best detection, use as small a flame as possible. Go over the joints slowly and carefully; use only methyl (wood) alcohol. Use caution if the flame turns blue with the exploring tube drawing in room air only. This indicates the presence of a considerable amount of refrigerant in the room, which in the case of methyl chloride might be in combustible proportions. In this case the flame should be extinguished at once.

Another good method of testing for leaks is the soap solution method. Some time before using, make about $\frac{1}{2}$ pint of a solution of water and soap of a kind that does not lather readily. Shave the soap and add it to the water until the solution is about the consistency of heavy oil and free from bubbles.

Apply With Brush

With soft (camel's hair) brush an inch or an inch and a half wide, apply the solution to all joints, connections, soldered joints, cap screw heads, gasketed joints or any places that could possibly leak. Be sure the entire connection is covered by the tough film of the soap solution on the underside of a flared tube connection as well as the top. The presence of a leak is shown by bubbles forming under the soap solution or in case of larger leaks, breaking through the solution.

There also are on the market liquid leak detecting solutions which are added to the system, and which indicate points of leakage by means of a stain which appears at those points.

The best time to test joints and connections on the low side of the system is when the condensing unit has been off for some time or for some other reason the evaporator is warm and the suction pressure comparatively high—around 40 to 50 lbs. At any rate the suction pressure should, for a leak test to be able to discover small leaks, be at least 25 to 30 lbs.

Inspect the joint carefully with an extension electric light. If some parts or connections are not visible otherwise, use a small hand mirror to show the back side of the connection.



Refrigeration Leaks

are

EASY

to Locate

with

Penk HALIDE

**LEAK
DETECTOR**



✓ Easy to Use

✓ Efficient and Simple

✓ Non-Clogging Burner
Self-Cleaning Orifice

(Can also be used as high-heat blow torch)

**SAFE
SURE
ECONOMICAL**

Save time and labor—pays
for itself on a few jobs!



THE REFRIGERATION INDUSTRY

Disabled Vets Ask Aid in Placements

"Disabled American Veterans" are requesting assistance in the placement of approximately 250,000 unemployed veterans who are handicapped due to war-incurred injuries.

Records from a large number of employers indicate as good as or lower absentee records, tardiness records, turn-over records, accident records, and better man-hour production and efficiency records than average, in a high percentage of instances.

"Disabled American Veterans" have developed a technique of matching veterans to jobs that, officials of the organization say, virtually guarantees satisfactory job output.

If you believe that there is a place in your servicing organization for a disabled veteran, get in touch with Dr. Gilbert S. Macvaugh, 1701 18th St. N. W., Washington 9, D. C. Or, if you prefer, drop a line to "Here's How" and we'll be glad to make the contact for you.

There are many good jobs around a refrigeration shop that a physically handicapped person can perform very

well. Look around—perhaps you have a place for one or more men. Remember, these veterans are good workmen—and you won't be doing them any bigger favor than you'll be doing yourself.

NEW TEXAS CONTRACTOR

Dalton B. Suggs has established the Refrigeration Engineering Corp. to engage in commercial refrigeration and air conditioning at 1401 West 5th St., Fort Worth, Tex.

WHENEVER it is necessary to purge out any considerable quantity of SO₂ gas, this procedure will be of help.

Use the usual lye solution in water, then cover the container holding the solution with a cloth saturated with ammonia water. This cloth should be folded three or four times for best results.

The SO₂ can then be blown into the lye solution at a rapid rate and any gas not absorbed by the lye will be neutralized by the ammonia.

Leo Hostetler, Boise, Idaho



Now Ready . . . the New

FREEZRLARM

. . . it's a PROFIT-MAKER!
. . . it's a TROUBLE-SAVER!

Freezrlarm effectively renders a REAL service to every customer. It is the exclusive, self-contained warning signal which sounds an alarm, whenever temperature rises, from ANY cause. Not connected in any way with electrical systems. You make \$9.60 on every sale. Send in a sample order today and get going with this fine profit-maker.

Price \$12.35 to authorized dealers
Maintained retail price \$21.95

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INDEX OF ADVERTISERS

THE REFRIGERATION INDUSTRY DECEMBER, 1946

Advanced Aircraft, Inc.	72
Aerovox Corp.	69
Alco Valve Co.	7
Harry Alter Co.	80
American Bitumuls Co.	50
American Coils Co.	25
American Injector Co.	66
American Refrigerator & Machine, Inc.	61
Ansul Chemical Co.	21
Theo. Audel & Co.	66
Automatic Products Co.	3
Bonney Forge & Tool Works.	16
Bush Mfg. Co.	11
Carrier Corp.	19
Chase Brass & Copper Co.	17
Chicago Eye Shield Co.	78
Chicago Metal Hose Corp.	51
Chicago Seal Co.	58
Curtis Refrigerating Machine Division	22
Davison Chemical Corp.	60
Detroit Lubricator Co.	23
Electrimatic Division	63
Engineering Service, Inc.	47
Eston Chemicals, Inc.	70
General Controls Co.	5
Grand Rapids Brass Co.	13
Grunow Authorized Service, Inc.	59
Handy & Harman	54
Harvey Metal Corp.	8
Henry Valve Co.	15
Highside Chemicals Co.	52
Jack & Heintz Precision Industries, Inc.	2
Jarrow Products Co.	73
Kerotest Mfg. Co.	10
Kinetic Chemicals, Inc.	6
Kold-Hold Mfg. Co.	20
Kramer Trenton Co.	48
Larkin Coils, Inc.	61
Lehigh Mfg. Co., Inc.	49
Lenk Mfg. Co.	78
Lynch Mfg. Co.	1
McIntire Connector Co.	59
Mario Coil Co.	18
Jas. P. Marsh Corp.	62
Minneapolis-Honeywell Regulator Co.	42
Mineraliac Electric Co.	57
Mueller Brass Co.	9, 24
Nash-Kelvinator Corp.	67
New England Carbide Drill Co.	60
Northern Indiana Brass Co.	79
Paragon Electric Co.	75
Peerless of America, Inc.	39
Penn Brass & Copper Co., Inc.	73
Penn Electric Switch Co.	26
Ranco, Inc.	76
Refrigeration Engineering, Inc.	3
Refrigeration Equipment Co.	79
Revere Copper & Brass, Inc.	71
Rotary Seal Co.	4
Skasol Corp.	63
Sprague Products Co.	64
Stangard-Dickerson Corp.	75
Sun Oil Co.	14
Superior Valve & Fittings Co.	47
Temperature Control Devices	62
Temprite Products Corp.	57
Texas Co.	68
Tudor Chemical Specialties, Inc.	58
U. S. Gauge—Div. American Machine & Metals, Inc.	56
Virginia Smelting Co.	74
Wagner Electric Corp.	12, 53
Weatherhead Co.	2
Western Thermal Equipment Co.	56
White-Rodgers Electric Co.	35

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BEST WISHES FOR A MERRY CHRISTMAS AND A HAPPY NEW YEAR



TO OUR FRIENDS

We'd like to express our real appreciation of the many expressions of your active cooperation and friendliness during this year which is ending. It's been a real pleasure to serve you—and we hope, with your continued assistance, to be able to keep on doing it for many, many years.

Again, our most sincere thanks—and best wishes for a Happy Christmas and a bright New Year from all of us to all of you.

The Refrigeration Industry

E.H.

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